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The church towers, bells and bell frames in the Hundreds of Clavering, Depwade, Diss, Earsham, Henstead and Loddon, in south-east Norfolk.

Cattermole, Paul D T

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THE CHURCH TOWERS, BELLS AND BELL FRAMES IN THE HUNDREDS OF CLAVERING, DEPWADE, DISS, EARSHAM, HENSTEAD AND LODDON, IN SOUTH-EAST NORFOLK.

Submitted for the degree of

Doctor of Philosophy

in the University of London.

Paul D. T. Cattermole, B. Sc.

King's College.

1984.

ABSTRACT.

The thesis is divided into four sections and an appendix, with an introduction.

The first part consists of notes made during a survey of the church towers, bells and bell-frames in an area of south-east Norfolk defined by the Hundreds of Clavering, Depwade, Diss, Earsham, Henstead and Loddon. Existing structures and bells have, where possible, been related to documentary evidence with the object of identifying the remaining pre-Reformation bells and bell-frames. Approximate dates have been suggested for the construction of a number of towers, which are described in detail. All apparently pre-Reformation bell-frames are fully recorded as are the inscriptions on all the bells examined.

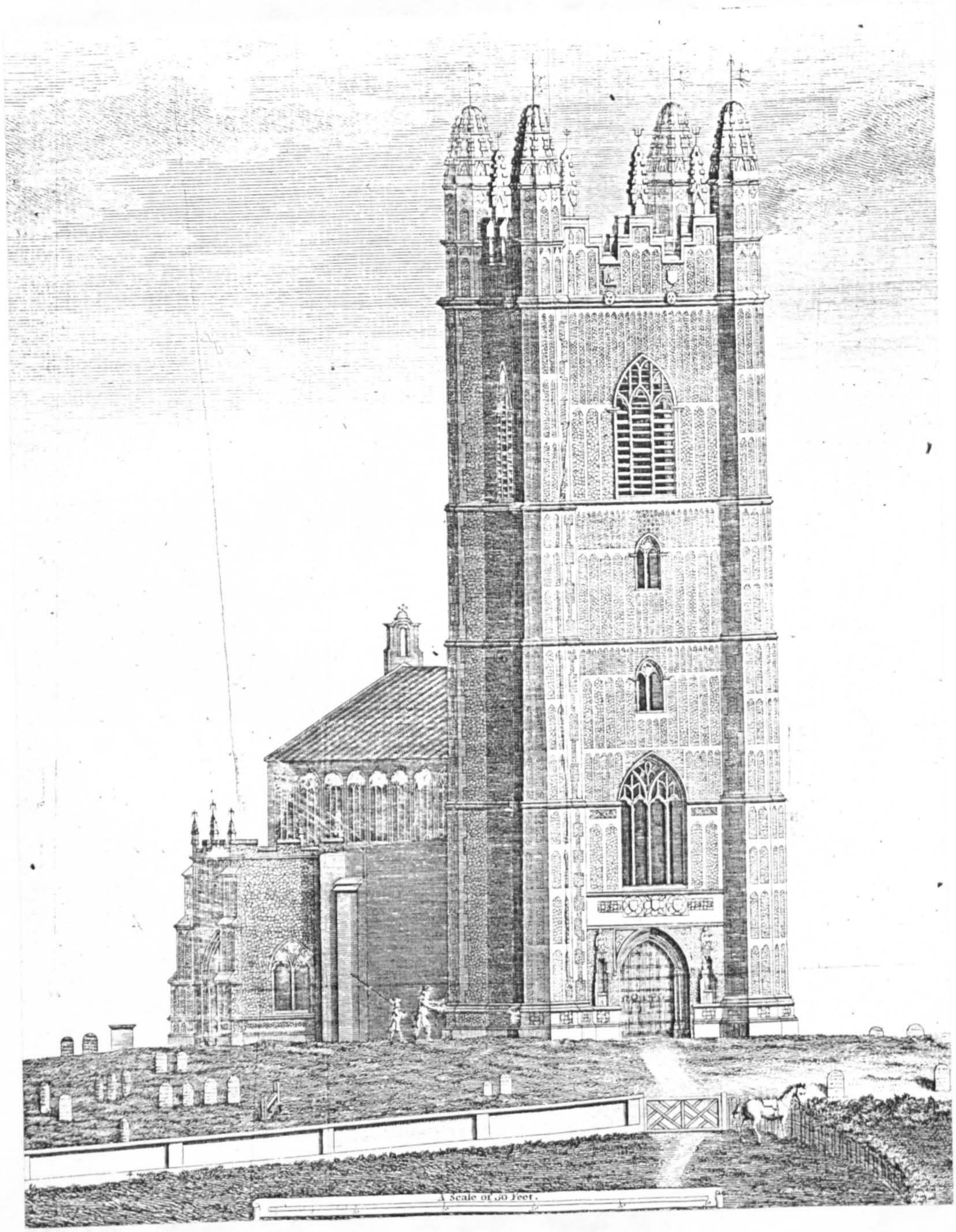
The second part deals with church towers, describing a typical pre-Reformation tower in detail, discussing the construction of towers in general and the raising of funds for their building: there is also an analysis of features of the towers surveyed.

In the third part the church bells are discussed, and the distribution of bells in the 1552 Inventory of Church Goods is compared with that recorded during the survey. Reasons for the differences are suggested.

The fourth part examines the design and construction of bell-frames: two distinctive pre-Reformation designs are recognised, and the later development of bell-frames is described.

The appendix deals with the ascription of the bells examined to their founders, and an interim classification has been set up for undated bells ascribed to the pre-Reformation founders working from Norwich.

REDENHALL CHURCH TOWER



From *History and Antiquities of the County of Norfolk*, Norwich, 1781.

Drawn by J. Milton, engraved by P. Foudrinier.

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ALDEBY	*45*	*BERGH APTON*	*47*
BROOKE	*47*	*BURGH ST. PETER*	*50*
ELLINGHAM	*50*	*GELDESTON*	*55*
GILLINGHAM	*55*	*HADDISCOE*	*58*
HALES	*58*	*HECKINGHAM*	*59*
HOWE	*62*	*KIRBY CANE*	*62*
NORTON SUBCOURSE	*65*	*RAVENINGHAM*	*67*
STOCKTON	*68*	*THORPE-NEXT-HADDISCOE*	*69*
THURLTON	*69*	*TOFT MONKS*	*70*
WHEATACRE	*74*		

2. HUNDRED OF DEPWADE.

ASHWELLTHORPE	*78*	*ASLACTON*	*91*
BUNWELL	*93*	*CARLETON RODE*	*97*
FORNCETT ST. MARY	*99*	*FORNCETT ST. PETER*	*106*
FRITTON	*108*	*FUNDENHALL*	*113*
HAPTON	*117*	*HARDWICK*	*117*
HEMPNALL	*119*	*MORNINGTHORPE*	*120*
MOULTON, GREAT	*124*	*SHELTON*	*126*
STRATTON ST. MARY	*130*	*STRATTON ST. MICHAEL*	*132*
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BLANK PAGE

LIST OF ABBREVIATIONS.

BBS.	The Black Book of Swaffham. Xerox copy at the Norfolk Record Office; PD 52/70.
Blomefield.	F. Blomefield (continued by C. Parkin), *An essay towards a topographical history of Norfolk*, initially published in 5 volumes at Fersfield, Norwich and Lynn, 1739 - 1775. References here made to the second edition, in 10 volumes, published in London, 1805 - 1810.
C&C.	P. D. T. Cattermole and S. Cotton, 'Documentary sources for church building in Norfolk', *Norfolk Archaeology, Vol XXXVIII*, Part III, Norwich, 1983, pp 235 - 279.
Cautley.	H. M. Cautley, *The churches of Norfolk*, Ipswich, 1949.
CBC.	J. J. Raven, *The church bells of Cambridgeshire*, London, 1882.
CBE.	H. B. Walters, *Church bells of England*, London, 1912.
CBEx.	C. H. Deedes and H. B. Walters, *The church bells of Essex*, Aberdeen, 1909.
CBH.	F. Sharpe, *The church bells of Herefordshire*, Bicester, 1975.
CBN.	J. L'Estrange, *The church bells of Norfolk*, Norwich, 1874.
CBS.	J J Raven. *The church bells of Suffolk*, London, 1890.
CBS. 2.	R. W. M. Clouston, *Bells and bellringing in Suffolk*, Suffolk Historic Churches Trust, 1980.
CBSx.	G. P. Elphick, *Sussex bells and belfries*, London, 1970.
CBWa.	H. B. Walters and H. T. Tilley, *The church bells of Warwickshire*, Birmingham, 1910.
CBWo.	H. B. Walters, 'The church bells of Worcestershire', *Transactions of the Worcestershire Archaeological Society*, vols II - IX, Worcester, 1925 - 1932.
CEAS.	The Centre for East Anglian Studies, University of East Anglia, Norwich.
CPW.	Council for the Care of Churches (formerly Council for Places of Worship), *Schedule of bells for preservation: diocese of Norwich*, London, 1975.

Day. George Day and Son; Church Bell-Hangers, Eye Suffolk; *Testimonials*; privately circulated, c. 1900. A small book of letters commending the work of the Eye bell-hangers, issued to churches contemplating the restoration of church bells: a good copy remains among the parish papers at St. Stephen's church, Norwich.

DCN. Documents belonging to the Dean and Chapter of Norwich: the pre-Reformation part of the collection relates to the Norwich Cathedral Priory.

EHM. E. H. Morris, *The history and art of changeringing*, London, 1931.

[illegible] *... churches of mediaeval ...*

EMA. J. Harvey, *English mediaeval architects*, London, 1954.

FCB. Faculty Books for the Diocese of Norwich, at the Norfolk Record Office.

[illegible] *... An introduction to the ...*

HBF. The manuscript notebooks of The Reverend H. B. Folland, who recorded the contents of parish chests for most of the churches in the Diocese of Norwich, and who made copious abstracts relating to church furnishings and ornaments. At the Norfolk Record Office, arranged by [illegible] Deaneries.

HBW. H. B. Walters, 'Inventories of church goods (1552)', *Norfolk Archaeology*, Norwich, 1941 - 1957.

Ladbroke. J. B. Ladbroke, *Views of the churches in Norfolk illustrative of Blomefield's history of that county from original drawings*, Norwich, 1823. The lithographs were published in 6 volumes and there is no pagination.

NA. Proceedings of the Norfolk Archaeological Society. Published annually.

NCC. Wills proved in the Norwich Consistory Court. At the Norfolk Record Office.

NCR. Norwich City Records.

NDA. The Annual Reports of The Norwich Diocesan Association of Ringers which are continuous from 1877 and are available in the Colman-Rye Library at Norwich. The reports, which are regularly updated, contain details of the weights and keynotes of rings of four or more bells: the 1977 list is well-arranged.

NDR. Records of the Diocese of Norwich. At the Norfolk Record Office.

NED. Deeds enrolled in the Norwich city court. At the Norfolk Record Office.

NFK. Wills proved in the Norfolk Archdeaconry Court. At the Norfolk Record Office.

NRO. The Norfolk Record Office, Central Library, Norwich.

OFB. The Old Free Book. At the Norfolk Record Office.

Pevsner. N. Pevsner, *The buildings of England: North-west and South Norfolk*, Harmondsworth, 1962.

Pevsner (S). N. Pevsner, *The buildings of England: Suffolk*, Harmondsworth, 1961.

Platt. C. Platt, *The parish churches of mediaeval England*; London, 1981.

PRO. The Public Record Office, Chancery Lane, London.

Saunders. H. W. Saunders, *An introduction to the obedientiary and manor rolls of Norwich Cathedral Priory*, Norwich, 1930.

SCW. Swaffham churchwardens' accounts, NRO., PD 52/71.

Taylor. H. M. and J. Taylor, *Anglo-Saxon architecture*; I and II, Cambridge, 1965; III, Cambridge, 1978.

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1. DEAN AND CHAPTER OF NORWICH.

PRINTED

H W Saunders. *An introduction to the obedientiary and manor rolls of Norwich Cathedral Priory.* Norwich, 1930.

UNPRINTED

The Domesday Book of Norwich Cathedral Priory.
DCN. Library.

H. W. Saunders, Ms. *Catalogue of the rolls of the Cathedral Priory.*
NRO.

Obedientiary rolls, especially:
Master of Cellar Rolls
Sacrist's rolls
NRO., DCN., R236B, R236C.

Cell Rolls, especially:
Aldeby Priory rolls
NRO., DCN., R235B.

H. Sutermeister, Ms. *Catalogue of the deeds of the Cathedral Priory.*
CEAS.

Individual deeds, especially
St Peter Parmentergate, 854
St Peter Parmentergate, 1182
St Stephen, N 54
NRO.

Account roll of Alderman Robert Toppes.
NRO., DCN., 3/10/2960.

Notitia Ecclesiastica.
NRO., R226A.

2. NORWICH DIOCESAN RECORDS.

PRINTED

E. D. Stone, 'Norwich Consistory Court depositions, 1499 - 1530', *Norfolk Record Society*, Vol X, Norwich, 1937.

UNPRINTED

Faculty Books.
NRO., NDR., FCB series.

Archdeacon's visitation registers.
NRO., NDR., ANF series.

Accounts of the Abbey of St. Bene't at Hulme.
NRO., NDR., EST 2/19.

Norwich Consistory Court marriage licences.
NRO., See Bolingbroke's catalogue.

Bishop's registers.
NRO., NDR., INST series.

Chancellor Tanner's index to the Bishop's registers.
NRO., NDR.

II. CITY AND BOROUGH RECORDS.

1. RECORDS OF THE CITY OF NORWICH.

PRINTED.

W. Hudson and J. C. Tingey, *A revised catalogue of the records of the city of Norwich,* Norwich, 1898.

W. Hudson and J. C. Tingey, *The records of the city of Norwich,* Norwich, 1906/1910.

Deeds enrolled in the court of the city of Norwich.

PRINTED CALENDARS

W. Rye, *A short calendar of the deeds relating to Norwich enrolled in the the court rolls ... 1285 - 1306,* Norwich, 1903.

W. Rye, *A calendar of Norwich deeds enrolled in the court rolls ... 1307 - 1341,* Norwich, 1915.

UNPRINTED CALENDARS

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Rolls from 21 onwards are indexed in the Doquet Books. NRO.

UNPRINTED ROLLS

Roll 1	1285-1287	Roll 2	1287-1298
Roll 3	1298-1300	Roll 4	1301-1307
Roll 5	1307-1311	Roll 6	1311-1313
Roll 8	1316-1318	Roll 7	1313-1316
Roll 8	1316-1318	Roll 9	1318-1322
Roll 10	1322-1327		

Roll 11 consists solely of deeds relating to St. Paul's Hospital.

Roll 12	1327-1332	Roll 13	1332-1341
Roll 14	1377-1390	Roll 15	1390-1399
Roll 16	1399-1405	Roll 17	1413-1421
Roll 18	1424-1435	Roll 19	1461-1483
Roll 20	1483-1508	Roll 21	1509-1546

Roll 22 consists of apprentices' indentures.

Roll 23	1546-1553	Roll 24	1553-1558

All rolls at NRO.

Private Deeds:

PRINTED

Two deeds relating to the 'Popinjay' inn. E. A. Tillett, *St. George Tombland past and present*, Norwich, 1891, p. 17.

UNPRINTED CALENDAR

F. J. Johnson, *Calendar of Private Deeds.*, NRO.

UNPRINTED DEEDS

Numerous individual deeds arranged by parishes. NRO., NCR., case 3.

Landgable Rents.

Assessment for Landgable; 1397. The Domesday Book of the City of Norwich, fo. 45.
NRO., NCR. Shelf 17b.

Assessment for Landgable; 1474. Landgable Roll.
NRO., NCR. Shelf 7i.

Assessment for Landgable, 1489. Chamberlain's Account Book 1470-1490, ff. 132-133.
NRO., NCR. Shelf 18a.

Assessment for Landgable,	1541-1549.	Langoll Rent Book 1.
Assessment for Landgable,	1549-1558.	Langoll Rent Book 2.
Assessment for Landgable,	1558-1570.	Langoll Rent Book 3.
Assessment for Landgable,	1606-1626.	Langoll Rent Book 4.

NRO., NCR. Shelf 18b.

Admissions of freemen.

PRINTED CALENDAR

J. L'Estrange, *A calendar of the freemen of Norwich from 1317 to 1603*, Norwich, 1888.

The Old Free Book.

NRO., NCR. Shelf 17c.

Miscellaneous records.

PRINTED.

M. Grace, 'Records of the Gild of St. George in Norwich, 1389 -1547', *Norfolk Record Society*, Vol. IX, Norwich, 1937.

W. Hudson, 'Leet jurisdiction in the city of Norwich during the XIII and XIV centuries ... ', *Selden Society*, London, 1892.

J. Kirkpatrick (Ed. W. Hudson), *The streets and lanes of the city of Norwich*, Norwich, 1889.

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2. RECORDS OF THE BOROUGH OF KING'S LYNN.

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UNPRINTED.

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Original Will KL/C12/9.

Minutes of the Guild Merchant of the Holy Trinity. KL/C5

Account Rolls of the Trinity Guild. KL/C38.

Ms. catalogue of records. NRO.

3. RECORDS OF THE BOROUGH OF THETFORD.

Thetford records are deposited at the King's House, Thetford, and are catalogued at the Norfolk Record Office.

Minutes of the borough assembly. T/C1/1 and T/TC/2.

Ms. catalogue of records. NRO.

4. RECORDS OF THE BOROUGH OF GREAT YARMOUTH.

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PRINTED.

J. L'Estrange. *A calendar of the freemen of Great Yarmouth, 1429 - 1800.* Norwich, 1910.

Contracts for church and chancel roofs at Norton Subcourse.
J. Harvey, *Mediaeval craftsmen*, London, 1975, pp. 198-199.

UNPRINTED.

Ms. catalogue of records. NRO.

III. INVENTORIES OF CHURCH GOODS.

H. B. Walters. 'Inventories of Church Goods (1552).' *Norfolk Archaeology*

Clavering Hundred	Vol XXVII	Norwich,	1941, pp. 114-123.
Depwade Hundred	Vol XXVII	Norwich,	1941, pp. 124-138.
Diss Hundred	Vol XXVII	Norwich,	1941, pp. 139-144, 263.
Earsham Hundred	Vol XXVII	Norwich,	1941, pp. 264-270.
Henstead Hundred	Vol XXXI	Norwich,	1957, pp. 200-209.
Loddon Hundred	Vol XXXI	Norwich,	1957, pp. 288-298.

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Of the numerous parish documents which have been consulted, many contained little relevant material, and only those sources which have been particularly useful are listed. Some parish records are deposited at the Norfolk Record Office and others remain in church chests: the locations of the documents are given as 'NRO.' where they have been deposited at the Norfolk Record Office, and 'Local' where they remain in the parish.

The Reverend H. B. Folland visited many of the churches in the Norwich Diocese during the 1950's and 1960's for the purpose of listing parish archives. In the process he sorted the contents of church chests and produced a comprehensive notebook, listing parish documents and often including abstracts relating to the furnishings and fittings of the churches. His notebooks are arranged by Deaneries and are deposited at the Norfolk Record Office.

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WALBERSWICK, SUFFOLK. (1450-1499).
R. W. M. Lewis, *Walberswick churchwardens' accounts. A.D. 1450 - 99,* Walberswick, 1947.

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NRO., PD136/56.

DEREHAM, EAST. (1419-1471).
NRO., Phillips Ms. No. 40,973, Box 5.

DEREHAM, EAST. (1478-1498).
NRO., P 182 D.

HARLING, EAST[1]. (from 1450)
NRO., Frere Mss, Giltcross Hundred, East Harling Bundle.

SHIPDHAM. (1511-1566).
NRO., Uncatalogued, May, 1984.

SNETTISHAM. (1468-1684).
NRO., PD 24/1.

SWAFFHAM. (1505-1595).
NRO., PD 52/71.

WITCHINGHAM, GREAT. (1528-1637).
NRO., BOL 93.

YARMOUTH, GREAT. (15th century)
A very few extracts are transcribed in Chancellor Tanner's Index to the Institution Books of the Bishops of Norwich.
NRO., NDR., Tanner's Index.
Further short extracts appear in ms. *Notitia Ecclesiastica* ff. 213, 214, 218, 219.
NRO., DCN., 226A.

2. LATER CHURCHWARDENS ACCOUNTS.

PRINTED.

KINGS' LYNN, ST NICHOLAS.
E. M. Beloe, *Extracts from the Chapel Wardens' Accounts of St. Nicholas' Chapel, Kings' Lynn*, Privately printed, 1926.

UNPRINTED.

BANHAM. Local.

BEDINGHAM. NRO., PD 443/39.

BRESSINGHAM. NRO., PD 111/69 and PD 111/70.

CARBROOKE. NRO., PD 124/30.

DENTON. NRO., PD 136/58.

1. The entry in the Frere Mss is as follows: 'East Harling Church. A Manuscript in the hands of Thomas Tanner D. D. Chaunceller of Norwich 1721 begins with the Churchwardens accounts of the year 1450. Bells new in the year 1465. Gathering through the town on Plough Monday 1510 gathered 4 sol. The book ends 1638. 1450 steeple finished.' A notice by Extraneus (1863) on Church Ales quotes from the 1452 acounts and states that these were copies from Tanner's Mss. See 'Church Ales and Interludes', *The East Anglian*, Lowestoft, 1863, vol. 1, 383. Correspondence with the Bodleian Library, and the British Library has failed to discover the whereabouts of the documents.

DICKLEBURGH. Local.

DISS. NRO., PD100/62.

KETTERINGHAM. NRO., PD 42/13.

NORWICH, ST STEPHEN'S CHURCH. Local.

SHELTON. NRO., PD 358/33.

STRATTON ST. MARY. NRO., PD 122/33.

TIBENHAM. Cambridge University Library, Buxton Mss, Case 34, Bay 3, Shelf 2.

TIVETSHALL ST. MARGARET. NRO., PD 79/27.

TUNSTEAD. NRO., PD 285/38.

WINFARTHING. NRO., PD 78/47, PD 78/48 and PD 78/49.

3. OTHER PARISH DOCUMENTS.

UNPRINTED.

ASHWELLTHORPE.
Agreement, dated 1398, between John Faudy, carpenter, of Salle, and Sir Edmund de Thorpe, Knight, of Ashwellthorpe, for new roofs to the church and chancel-aisle. 18th-century transcript.
NRO., Frere Mss, Depwade Hundred, Ashwellthorpe Bundle.

BANHAM.
Bonds dated 1597 (2) between churchwardens and Thomas Draper, bellfounder, of Thetford.
Bond dated 1632 between churchwardens and John Draper, bellfounder, of Thetford for casting a new sanctus bell. Local.

BEDINGHAM.
Bill for supplying new bell and clapper. NRO., PD 443/44.

DICKLEBURGH.
Faculty petition, 1726, to scrap the 'Saints' bell', the clock bell and a 'Repeating bell'. Local.

EARSHAM.
Bond dated 1613 between churchwardens and William Brend, bellfounder, of Norwich, for recasting the great bell.
NRO., MC/15/23.

KENNINGHALL.
Collections for Kenninghall in Com. Norff. 1712.
NRO., Frere Mss, Giltcross Hundred, Kenninghall Bundle.

NORWICH, ALL SAINTS' CHURCH.
Parish registers.
NRO., PD 74/41.

NORWICH, ST. ANDREW'S CHURCH.
Articles of agreement between the churchwardens and Michael Darbie and Thomas Slow, bellfounders, of Norwich for recasting four bells.
NRO., P 163 A.

NORWICH, ST. STEPHEN'S CHURCH.
Benjamin Mackerell's Book. 1729/1730.
Parish Registers. Local.
(There is also a transcript of Mackerell's Book among the Rump Mss. at Norwich School.)

SWAFFHAM.
The Black Book of Swaffham.
Local, Xerox copy at NRO., PD 52/473.
Agreement to maintain the church bells, 1595.
NRO., PD 52/70.

V. BUILDING ACCOUNTS.

1. NORWICH CATHEDRAL.

The Priory has left no specific fabric rolls, but the reconstruction of the Cathedral church and many of the conventual buildings following the great fire of 1272[1] is recorded in the Obedientiary Rolls of the Cathedral Priory, as also are the substantial repairs following the collapse of the spire in 1463[2].

PRINTED ACCOUNTS.

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E. C. Fernie and A. B. Whittingham, 'The early Communar and Pitancer rolls of Norwich Cathedral Priory, with an account of the rebuilding of the cloister', *Norfolk Record Society, Norwich, 1970.*

UNPRINTED ACCOUNTS.

THE GREAT TOWER 1291-1297
Six years accounts, with some detail.
NRO., DCN., Sacrist's Roll 220.

THE BELFRY 1300-1307
Detailed accounts, with gaps.
NRO., DCN., Sacrist's Rolls 221, 222, 223, 224 and 225.

REPAIRS FOLLOWING FIRE 1466-1486.
Detailed accounts, with gaps.
NRO., DCN., Sacrist's Rolls 299-309.

2. OTHER NORFOLK CHURCHES.

UNPRINTED ACCOUNTS.

BAWBURGH CHANCEL, 1320.
Detailed account.
NRO., DCN., Sacrist's Roll 226.

COSTESSEY CHANCEL, 1392-1397.
Very full accounts.
Great Hospital Manor Rolls for Costessey.
NRO., NCR., Shelf 24c.

ELMHAM, NORTH, CHANCEL, 1382-1387.
Detailed accounts with gaps.
NRO., DCN., Master of Cellar's Rolls 60, 61, 62, 64.

1. Blomefield III, 53 -57.

2. Blomefield III, 163.

HARDLEY CHANCEL, 1457-1462.
Very full accounts.
Great Hospital Manor Rolls for Hardley.
NRO., NCR., Shelf 24e.

NORWICH, GREAT HOSPITAL BELL TOWER.
One year's full accounts.
Great Hospital Account Rolls.
NRO., NCR., Shelf 24a.

NORWICH, ST. SAVIOUR CHANCEL, 1424.
Detailed accounts.
NRO., DCN., Almoner's Roll 531.

REPPS-CUM BASTWICK CHANCEL, 1455-1458.
Very full accounts.
Great Hospital Manor Rolls for Repps-cum-Bastwick.
NRO., NCR., Shelves 24f and 24g.

STOKE HOLY CROSS CHANCEL, 1490.
Detailed accounts.
NRO., DCN., Chamberlain's Roll 450.

SWAFFHAM TOWER, 1507-1519.
Detailed accounts.
Swaffham churchwardens' accounts.
NRO., PD 52/71.

THURLTON CHANCEL, 1441.
Detailed accounts.
Thurlton Expense Roll.
NRO., NCR., Shelf 24, roll 5.

TROWSE CHANCEL, 1283.
Detailed accounts.
NRO., DCN., Master of Cellar's Roll 6.

WICKLEWOOD CHANCEL, 1412.
One year's accounts.
NRO., DCN., Almoner's Roll 520.

WIGHTON CHANCEL, 1441-1457.
Detailed accounts with gaps.
NRO., DCN., Cellarer's Rolls 163, 164, 165, 168, 170.

WORSTEAD CHANCEL, 1485-1488.
Detailed accounts with gaps.
NRO., DCN., Cellarer's Rolls 188, 190 and 191.

VI. WILLS.

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M. A. Farrow, 'Index of wills proved in the Consistory Court of Norwich 1370-1550', *Norfolk Record Society*, Vol. XVI, Parts 1, 2 and 3, Norwich, 1943-1945.

P. Palgrave-Moore, 'Index of wills proved in the Norfolk Archdeaconry Court 1453-1542', *Norfolk Genealogical Society*, Norwich, 1971.

J. C. C. Smith. *'Index of wills proved in the Prerogative Court of Canterbury 1383-1558'*, London, 1893.

UNPRINTED INDEXES.

Ms. index to wills proved in the Norwich Archdeaconry Court, 1469-1545. NRO.

Ms. index to wills endorsed on the *Acta et Comperta* Rolls of Norwich Cathedral Priory. NRO.

Ms. index of wills proved in the peculiar jurisdiction of the Dean and Chapter of Norwich. NRO.

UNPRINTED WILL REGISTERS.

Wills proved in the Norwich Consistory Court.
NRO., series.

Wills proved in the Norfolk Archdeaconry Court.
NRO., series.

Wills proved in the Norwich Archdeaconry Court.
NRO., series.

Wills proved before the Prior of Norwich.
NRO., DCN., Q232C.

Wills proved in the Prerogative Court of Canterbury.
PRO., series.

VIII. HISTORICAL COLLECTIONS

UNPRINTED

Tom Martin's Church Notes.
NRO., Rye Ms. No. 17.

John Kirkpatrick's Collections.
NRO., NCR. Kirkpatrick Mss.

John L'Estrange's Collections.
NRO., L'Estrange Mss.

VII. BELL-FOUNDERS RECORDS.

PRINTED

George Day and Son, Bell-hangers, Eye Suffolk, *Testimonials*, privately printed, c. 1900.

UNPRINTED

Kimber's books: a collection of drawings, made towards the end of the 19th century, recording inscriptions on bells which were subsequently recast by the Whitechapel bell-foundry. The following are recorded:

Bixley	Book 1, fo. 15.	Brockdish	Book 1, fo. 73.
Didlington	Book 3, fo. 18.	Haveringland	Book 1, fo. 24.
Hevingham	Book 3, fo. 22.	Martham	Book 2, fo. 47.
Oxborough	Book 3, fo. 19.	Wood Rising	Book 1, fo. 26.

Whitechapel Bell Foundry, 34, Whitechapel Road, London.

Letter book of Messrs. Moore, Holmes and Mackenzie, Bellfounders, 1883-1884.
Whitechapel Bell Foundry, 34, Whitechapel Road, London.

Annotated book containing press cuttings and letters relating to Messrs Moore, Holmes and Mackenzie, 1879-1884.
Candler Mss. in the Norfolk Archaeological Society Library, Garsett House, Norwich.

IX. MISCELLANEOUS DOCUMENTS.

1. PLEA ROLLS.

UNPRINTED

Card index to Norfolk entries in the Rolls of the Court of Common Pleas.
CEAS.

Common Plea Rolls.

CP 40 519	CP 40 575 Fragile.
CP 40 599 Fragile.	CP 40 611 Fragile.

PRO.

2. COURT ROLLS.

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H W Chandler. *Five court rolls of Great Cressingham.* London, 1885.

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3. Churches and their fittings.

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R. and J. A. Brandon, *Parish churches*, London 1846 - 1847.

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In

Original

I. INTRODUCTION.

'There has been an increasing trade in the rehanging of church bells in the last thirty years, and during that time fine old bell-cages in which could have been repaired have been destroyed and replaced, old bells have been mutilated by the removal of their cannons, and others - rare works of the sixteenth and earlier centuries - have been melted down.'

So wrote A. R. Powys, secretary of the Society for the Protection of Ancient Buildings, in 1929[1]. Fifty years later it is possible to say that old bells have been regarded more sympathetically, since a Schedule of Bells for Preservation was drawn up by the Council for the Care of Churches in the 1930's[2]. The Council's policy, which is usually followed by the Norwich Diocesan Advisory Committee, is that bells earlier than 1600 should not be recast and that bells dated between 1600 and c. 1750 should only be recast if they are cracked: bells cast later than c. 1750 are allowed to be recast as long as any inscription on the old bell is reproduced in facsimile[3].

The policy for bell-frames, as laid down by the Council for the Care of Churches, is that ancient wooden bell-frames should be carefully preserved wherever possible if sound and fit for continued use. Old bell-frames are, however, being lost at an alarming rate since the decision on the fitness of an old frame for further use, usually left to bell-founders and church architects, is almost always based on engineering principles. A bell-founder prefers to hang bells on a rigid framework, and the cost of restoring an old frame to a suitable state is often greater than that of providing a new one. In cases where a new bell-frame is mounted lower in the tower it is often possible to leave the old one undisturbed; but when the only feasible position for bells is in the space occupied by an existing bell-frame the cost of preserving an old frame, by carefully removing it to another place, is usually sufficiently high to prevent such action being taken. In the absence of an analytical study[4] or a detailed local survey it is difficult to form an opinion on the rarity or interest of particular bell-frames, and it is no easier to assign probable dates.

1. A. R. Powys, *The Repair of Ancient Buildings*, London, 1929.
2. The revised list for the Norwich Diocese was issued in 1974. All bells cast before 1550 are included in the Schedule, as are important bells of later date.
3. Agreement concluded between the Central Council for the Care of Churches and the Towers and Belfries Committee of the Central Council of Church Bellringers; with the concurrence of the two firms of bellfounders, 12th October, 1959: Published in 1959 by The Council for Places of Worship.
4. See G. P. Elphick, 'Sussex Bellframes', *Sussex Archaeological Collections*; vol 84, Chichester, 1945; 33-59, which appears to be the only published analysis of ancient bell-frames.

As an example of the destruction of valuable archaeological material it is worth quoting the recent restoration of a derelict ring where all five bells were good examples of 17th-century bell-founding. They hung in a frame which could be dated by documentary and structural evidence to the 15th century and which appeared to be one of only three surviving pre-Reformation five-bell frames in the Diocese[1]. In the process of getting the bells out of the tower an unnecessarily large quantity of timber had been carelessly taken away, and the builders' intention was to remove the frame completely. The ring had been removed from the tower without specific instructions regarding the cannons, but a telephone call to the bell-foundry revealed that these had been cut off all five bells on arrival[2]. Although the 17th-century bell-founders had left a ring tuned to the uncommon, but not rare, Dorian mode they returned as a major five with the note of the third bell raised by a semitone[3]. The restored bells are now an excellent ring by any standards, but a great deal of their ancient quality and interest has been unnecessarily lost.

The object of the following thesis is to compare the available evidence from documentary sources with archaeological evidence drawn from standing church towers, and the bells and bell-frames which they contain. The area was identified for detailed study because many of the churches in rural Norfolk are known to have bells which are no longer safe for ringing[4], a fact which suggested that there was a good chance that old bells and bell-frames would have survived in unrestored belfries.

After a preliminary inspection of approximately 200 churches in an area between the rivers Yare and Waveney, and bounded by the Breckland to the west, it became clear that there was a wealth of archaeological material: the excitement of this discovery was, however, mitigated by the fact that many of the more interesting belfries in the chosen area were unsafe, and that close inspection would be rather difficult. It was eventually decided that a careful study of church belfries in a comparatively small area would be more fruitful than a cursory examination of a larger number. The area chosen for the detailed survey contains 103 churches in part of south-east Norfolk defined by the hundreds of Clavering, Depwade, Diss, Earsham, Henstead, and Loddon. The survey involved one or more visits to each church in the chosen area where notes recording details of bells were made, and bell-frames were examined in sufficient detail to determine those which were of the greatest interest. In order to interpret the significance of some of the bells and frames parallel material was sought from churches in neighbouring hundreds, and in Norwich.

1. Viz. Cawston, Oulton and Thompson. Information pooled from a number of researchers, especially The Reverend D. L. Cawley, Diocesan Adviser on Bells from 1972 to 1977.
2. Although cannon-retaining headstocks are made, removal of the cannons makes it very much easier for the bell-hanger to fit a modern headstock.
3. A considerable quantity of metal was removed from the edge of the bell in the process.
4. NDA., *passim*.

NORFOLK.

LOCATION MAP
showing the Hundreds of
Clavering, Depwade, Diss,
Earsham, Henstead and Loddon
in
SOUTH-EAST NORFOLK

REFERENCE to the HUNDREDS.

Smithdon	1	Freebridge	13	Blofield	24
Brothercross	2	Marshland	13	Henstead	25
N.th Greenhoe	3	Clackclose	14	Humbleyard	26
Holt	4	S.th Greenhoe	15	Depwade	27
N.th Erpingham	5	Mitford	16	Wayland	28
Happing	6	Forehoe	17	Grimshoe	29
Tunstead	7	Taverham	18	Shropham	30
S.th Erpingham	8	West Flegg	19	Guiltcross	31
Eynesford	9	East Flegg	20	Diss	32
Launditch	10	Walsham	21	Earsham	33
Gallow	11	Clavering	22	Norwich Liby	34
Freebridge Lynn	12	Loddon	23		

The figures prefixed to the Towns denote the distance from London

English Miles.
2 4 6 8 10 12

Longitude East 1° from Greenwich

Eng.d by Gray & Son.

Pub.d by Arch.d Fullarton & C.o Glasgow

The following account of the inspection of a single pre-Reformation bell in a church where the tower had not been climbed for some years, and where a pull on the bell-rope provoked no response, is presented as an indication of the difficulties encountered in completing a comprehensive survey. A ladder had been brought to the church but it proved impossible to open the trapdoor in the first floor of the tower. The churchwarden kindly offered to saw the trap out so that the bell could be inspected on another occasion, and he found that the first-floor of the tower was covered to a depth of 4 ft in birds' droppings. When the rubbish had been removed it became clear that the floor was not safe enough to take the foot of a second ladder to reach the bell, and a local builder offered to deliver deal planks to be laid over the defective floor. Since the deals were all of the same length and the tower was round, it was not possible to introduce more than a single plank. Success was achieved on a third visit when boards of diminishing sizes were produced: a ladder was raised to the bell which, although cracked, proved to be of great interest. The bell was hanging from its headstock by rusty, paper-thin ironwork, and on a fourth visit stout timbers were introduced to prevent the possible collapse of the bell.

The main printed source used was *The Church Bells of Norfolk* by John L'Estrange (Norwich, 1874), whose record of the bells in the various churches is generally accurate but whose identification and dating of the pre-Reformation bell-founders operating in Norwich and Lynn needs revision. By studying deeds enrolled in the Norwich City Court it is possible to confirm the existence of a number of founders unknown to L'Estrange, to extend the known history of bell-founding in the city back to c. 1220, and to justify its continued existence through to 1755. Research among the documents of the Borough of Lynn has also made it necessary to adjust L'Estrange's list of founders who worked there. Blomefield's *History of Norfolk*[1] provided much of the local historical background and, where his sources (usually identifiable by the 'hot-cross-bun' mark placed on the documents which he had consulted) have been examined, he has been found to be generally reliable.

The principal source for dating church fabric was found in the large number of probate copies of wills written between 1370 and 1550 by testators in the Diocese of Norwich, but other sources were less fruitful. The registers of the Bishops of Norwich were particularly disappointing, and parish records revealed little useful information[2]. In the area under consideration it is only at Denton where pre-Reformation churchwardens' accounts have survived[3], and accounts at Swaffham and East Dereham have been used to provide parallels.

1. F. Blomefield and C. Parkin, *An Essay towards a Topographical History of Norfolk*, Fersfield, Norwich and Lynn, 1739 - 1775.
2. The information gleaned from wills and other sources has been published: see P. Cattermole and S. Cotton, 'Mediaeval parish church building in Norfolk', *Norfolk Archaeology*, XXXVIII part III (1983), 235 - 279.
3. Denton (1506 - 1539): NRO, PD 136/56. East Dereham (intermittent accounts from 1419 to 1498): NRO, P 182 D and Phillips Ms. No. 40973. Swaffham (1505 - 1595): NRO, PD 52/71.

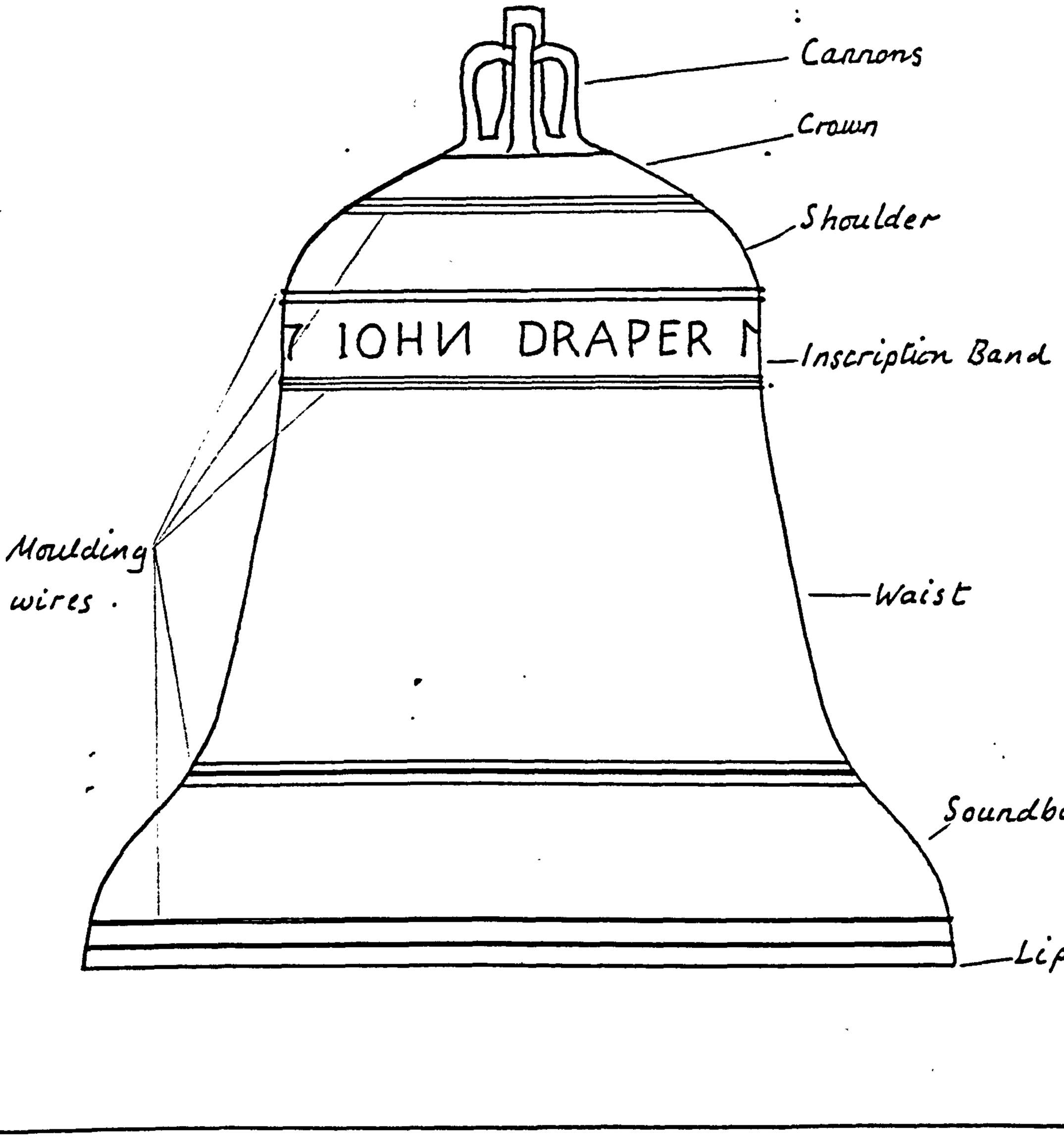
The numerous bequests to bells at individual churches are noted[1], and brief details of the bells as recorded in the 1552 Inventories of Church Goods are taken from H. B. Walters' transcript[2].

The survey is presented under the headings of individual churches which are arranged by hundreds. Structural details have been examined to support building dates suggested by documents, and those towers where no written evidence has been found have been approximately dated by considering stylistic parallels. The bells are described in order from the treble (the bell with the highest note) through to the tenor (the bell with the deepest note) whose size is indicated by its diameter and weight[3], and the inscriptions are recorded with spellings as they appear on the bells[4]. The lettering on all dated bells has been compared in the tower with a set of alphabets which can be ascribed with certainty to particular founders, and most ascriptions have been made in this way[5]. In order to make an analysis and suggest dates for undated bells, rubbings have been taken from their inscriptions. Modern bell-frames have not been described in detail, but those which appear to date from the 18th century or earlier have received more attention. Although it was intended to record full details and measurements of frames which appear to be contemporary with towers, many of the more interesting examples are in such poor condition that it would be dangerous to climb about on them; and in such cases unmeasured sketches have been presented.

1. Since they were not generally included in C&C, see p. 40, note 2.
2. See p. 22.
3. When bells are rehung accurate weights are usually supplied by the bell-hangers and are often recorded on framed notices in towers. Where exact information has not been found the weights of bells have been estimated by comparison with similar bells of known weight. The strike-notes of tenor bells have been ascertained, where possible, by means of tuning-forks. Much of this information is contained in the Annual Reports of the Norwich Diocesan Association of Ringers (see p. 33).
4. In the inscriptions cast on a number of pre-Reformation bells contractions are indicated by a bar above the appropriate part of the word, and in the record of inscriptions these are denoted by an apostrophe (for example the usual contraction of Johannes would appear as Joh'es). The symbol '+' denotes an initial cross before an inscription and the symbol '*' denotes a founders' stop. Upper and lower-case lettering has been reproduced, but it has not been possible to differentiate in the text between the alphabets used by the various founders. Unusual spellings, and mistakes, are quite common and these have not called for particular remark.
5. Rubbings to be deposited at NRO.

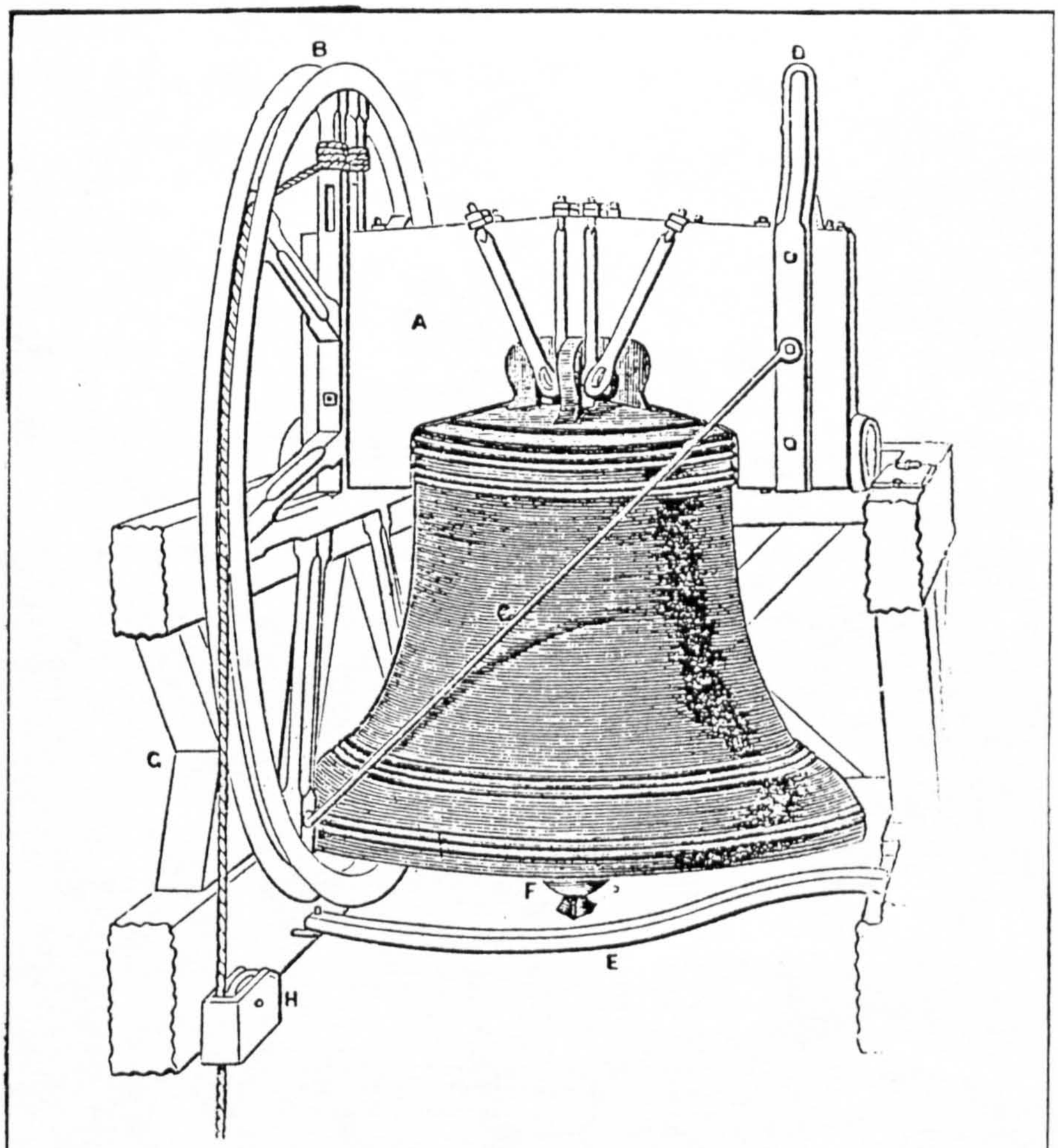
DIAGRAM

SHOWING THE PARTS OF A BELL.



DIAGRAM

SHOWING A BELL HUNG FOR RINGING.



Single bell hung as for change ringing

A. Headstock	E. Slider
B. Wheel	F. Clapper
C. Wheel Strut	G. Frame
D. Stay	H. Pulley

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II. SURVEY NOTES.

1. HUNDRED OF CLAVERING.

ALDEBY, St Mary the Virgin. April 1979.

The square tower is placed at the crossing of this cruciform church where there are tall, pointed arches to the nave and chancel with lower, segmental arches to the transepts. The tower, which is plastered internally, appears to be constructed of brick (visible outside) up to the level of the first-floor ringing chamber. The upper stages of the tower are of flintwork with limestone quoins, and the sound-windows, although retaining some lengths of older limestone moulding, appear to have been heavily restored . The stepped parapet is of flint and limestone flushwork, and access to the first floor is by means of a vise, encased in a brick turret. An inscription on the north-west pier of the tower crossing reads:

'THIS TOWER BELT 1633'.

The original tower was apparently under construction in 1377[1] and it seems that it may have collapsed in the early years of the 17th century, to be rebuilt from the old materials in 1633. The fact that two of the bells are dated in the same year suggests that their predecessors had been damaged by the fall of the tower, and were recast and rehung at the time of rebuilding.

The bells are a ring of five, tenor diameter 37 1/2 inches (953 mm) weighing approximately 9 cwt and sounding G sharp: they are tuned in the minor key.

1. M&S LONDON 1946
   GIVEN BY ALDEBY AND WHEATACRE IN MEMORY OF
   THE MEN WHO GAVE THEIR LIVES 1939 - 1945
   (also Whitechapel Foundry mark)

2. Anno Domini 1633

3. EDW: TOOKE MADE ME 1677
   JOHN HANNER JOHN SPARKE

4. EDWARD TOOKE MADE ME 1671

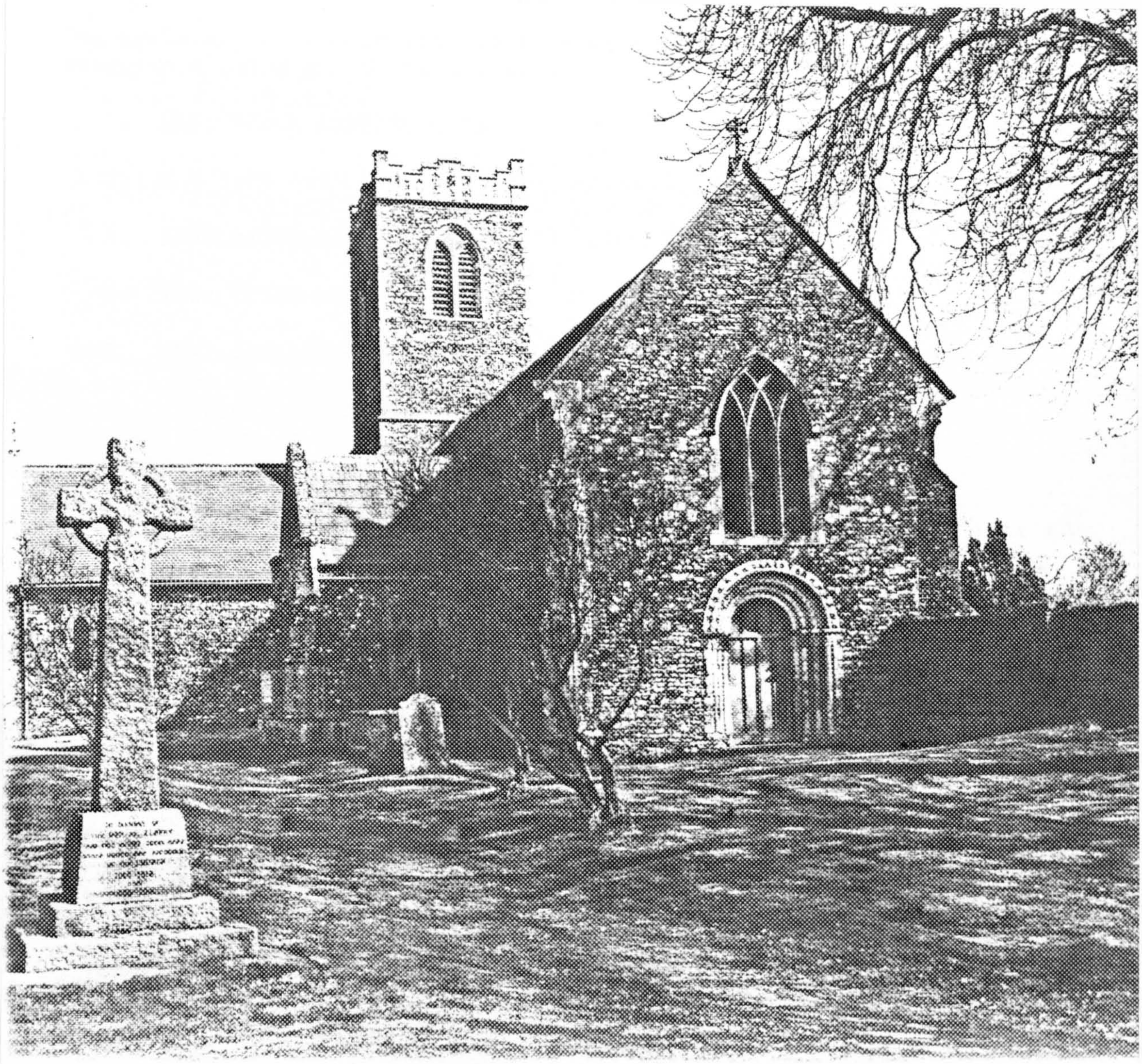
5. ANNO DOMINI 1633

There were bequests for bells in 1495 and 1520[2], and the 1552 Inventory records a bell of 15 cwt with a sanctus bell of 1 cwt. 2 and 5 of the present ring are by William Brend of Norwich. The four heavier bells were rehung in a new metal frame for six in 1913[3] when space was left for a larger bell sounding F sharp, which would bring the ring into the major key.

1. C&C.
2. 1495, John Wallys of Aldeby, NCC wills Multon 100
   1520, Henry Maggys of Aldeby, NCC wills Coppynger 33.
3. The date is inscribed on the bearing blocks.

ALDEBY

June, 1979.



Central tower probably reconstructed in 1633 using materials and details from a tower of c. 1377.

BERGH APTON; SS Peter and Paul. May 1978.

No bequests relating to the construction of the square tower have been traced, but its design and details suggest a 14th-century or 15th-century date. It is built of flint with brick details, and has diagonal buttresses.

The bells are a ring of six, tenor diameter 37 1/2 inches (953 mm) weighing 8 cwt 3 qr 15 lbs and sounding G.

1. EDW: TOOKE MADE ME 1678
2. E T 1674
3. IOHN BREND MADE ME 1656
4. EDW: TOOKE MADE ME 1677
5. ANNO DOMINI 1628 W B
6. + Petrus Ad Eterne * Ducat Nos Pascua Vite

The 1552 Inventory records bells of 6 cwt, 7 cwt and 8 cwt, with a saunce bell of 40 lbs, and the present bells are all by Norwich bell-founders. 2 is by Edward Tooke, 5 is by William Brend and 6 is a pre-Reformation bell by an unidentified founder[1]. The bells were rehung in a metal frame with modern fittings in 1936[2].

BROOKE, St Peter. August 1979.

The round west tower shows three distinct phases of construction. The lowest section of about 10 ft (3.3 m), which is probably 12th-century, is of well-coursed flintwork and has two window openings with semi-circular heads formed in limestone. The second stage of about 30 feet (10 m) has rather smaller flints set in courses, and all openings in this stage have been blocked. Four large sound-windows whose arches are formed of hard mortar set over a centering of boards can be seen from inside the tower, and the total absence of limestone at this level suggests a date little later than that of the lowest stage. The bells are hung in the top stage of the tower whose uncoursed flintwork includes a considerable proporion of brick rubble: the soffits and jambs of the four sound-windows are also neatly worked in brick.

Bequests between 1461 and 1476 suggest that the nave of the church was reconstructed, heightened and re-roofed at about that time and construction work on the tower, mentioned in a will of 1466, is very likely to refer to the addition of the present top stage[3].

1. See p. 430.
2. NDA.
3. C&C.

The bells are a ring of six, tenor diameter 41 1/2 inches (1055 mm) weighing approximately 14 cwt and sounding G.

1. JOSEPH MALLOWS EAST DEREHAM FECIT 1758

2. No Inscription

3. JOSEPH MALLOWS FECIT 1758

4. + In Multis Anis * Resonet Capana Iohis

5. COME RAIS US WELL AND RING US RIGHT
   THEN ALL THAT HEAR WILL TAKE DELIGHT

6. AS OUR LOUD SOUND DOTH SPREAD ABROAD
   THEN LET ALL BREATH SING PRAISE THE LORD

There were bequests for bells at Brooke in 1498 and 1508[1], and the 1552 Inventory records bells of 3 cwt, 5 cwt, 7 cwt, 10 cwt and 15 cwt. 1, 3, 5 and 6 are now the most important surviving collection of bells cast by Joseph Mallows of East Dereham[2]; and 3, a roughly cast bell of similar design to the single bell at Shelton, is probably by Samuel Gilpin of Norwich who was working between 1679 - 1705 [3]. 4 is a pre-Reformation bell from the Norwich bell-foundry, probably cast by John Baly[4].

There is no reason to suggest a date earlier than 1758 for the bell-frame, which has every appearance of having been designed for the existing ring of six bells. The bells were rehung in the old frame in 1910[4].

1. 1498 Petronilla Edmunds of Brooke, NRO NFK wills Shaw 42.
   1508, Edmund Maine of Brooke, NRO NFK wills Cooke 164.
2. Since the destruction of the ring of five at Beetley (CBN p. 100) and the octave at North Elmham (CBN p. 129).
3. See p. 447.
4. See p. 429.
4. Date inscribed on the bearing-blocks.

BROOKE

May, 1980.

Round tower, probably 12th-century in its lower stages, with a top stage of c. 1466.

BURGH ST. PETER. April 1981.

According to a Faculty petition of 1794[1] the tower, which consists of four brick cubes of diminishing size placed one on top of another, was built at the expense of The Reverend Samuel Boycatt, who adapted the base of an earlier tower as his family mausoleum and built the present structure above it[2]. The design and details of the lowest stage, which has a brick plinth and is built of flint with a facing of neat brick diaper-work, suggest an early 16th-century date.

There is a single bell, diameter 24 inches (610 mm) weighing approximately 3 cwt.

1. CAST 1680
   RE.CAST. BY. "CHARLES CARR" SMETHWICK. 1894.

(The inscription is on the waist of the bell).

According to L'Estrange[3], the predecessor of the bell was inscribed:

EDW TOOKE MADE ME 1678.

The 1552 Inventory records bells of 3 1/2 cwt, 4 1/2 cwt and 7 cwt, and the Faculty of 1794 authorised the sale of two of the three bells[4] then hanging in the tower.

The bell, which is swing-chimed, hangs between a pair of parallel joists.

ELLINGHAM, St Mary the Virgin. June 1981.

Although the outside of the square, unbuttressed west tower has a uniform facing of flint with limestone details, differences observed inside suggest that it was built in two phases. The two lower stages, to a total height of about 45 ft (15 m) and including the ground-floor and first-floor chambers, are constructed of flint, and brick is used only for the soffits of arched openings. The topmost stage of the tower, increasing the height by about 20 ft (6.5 m) and housing the bells, is constructed almost entirely of brick beneath the flint facing, and a bequest in 1447[5] may well suggest a date for this part. The impressive parapet has stepped merlons with flushwork decoration, and the diagonally-set pinnacles are similar to those on the late 15th century tower at New Buckenham.

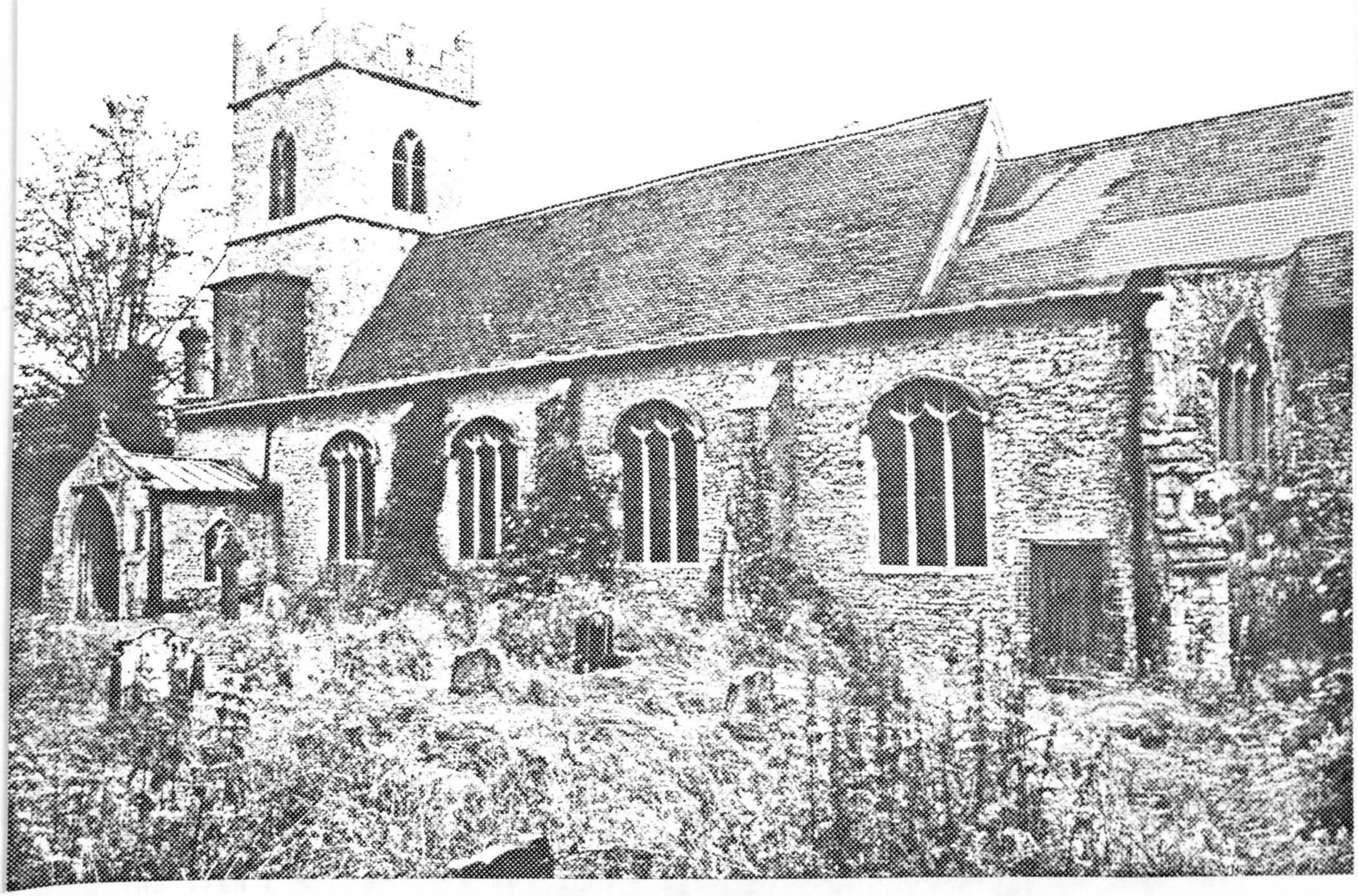
1. NRO., NDR., FCB. 7, fo 12.
2. Parish Register seen at the church.
3. CBN., p. 110.
4. See note 1.
5. C&C.

BURGH ST PETER

Brick tower of 1794 built on an earlier base.
Engraving from E. Tyrell Green, *Towers and spires, their design and arrangement*, London, 1907, p. 183.

ELLINGHAM

June, 1981



Tower with upper stage probably of c. 1447, and later parapet.

The bells are a chime of five with a tenor whose diameter is 38 1/2 inches (980mm) weighing 10 cwt 1 qr 27 lb [1].

1. CAST BY JOHN WARNER & SONS LTD. LONDON 1876
   ROBERT CARTWRIGHT RECTOR
   HENRY YOUNGMAN)
   JOSEPH POGGS) CHURCHWARDENS
   G. DAY HUNG ME 1876

2. ANNO DOMINI 1596

3. ANNO DOMINI 1629

4. CLARIBEL ANNO DOMINI 1629 MR WILLIAM HAMMOND
   I WILL SING A NEW SONG UNTO THE LORD
   RECAST 1977 WHITECHAPEL

5. TVBA AD IVDICIVM CAMPANA AD ECCLESIAM 1647 MR IOHN HAMMONDE

There were bells of 3 cwt, 5 cwt, 7 cwt and 9 cwt in 1552, and it would appear from L'Estrange's description of the bells that before the recasting in 1876 and 1977 all were from the Norwich foundry. L'Estrange[2] notes a Norwich foundry shield on the crown of the former treble, which was cracked with an iron band covering the inscription, and he records the inscription on the former fourth bell as

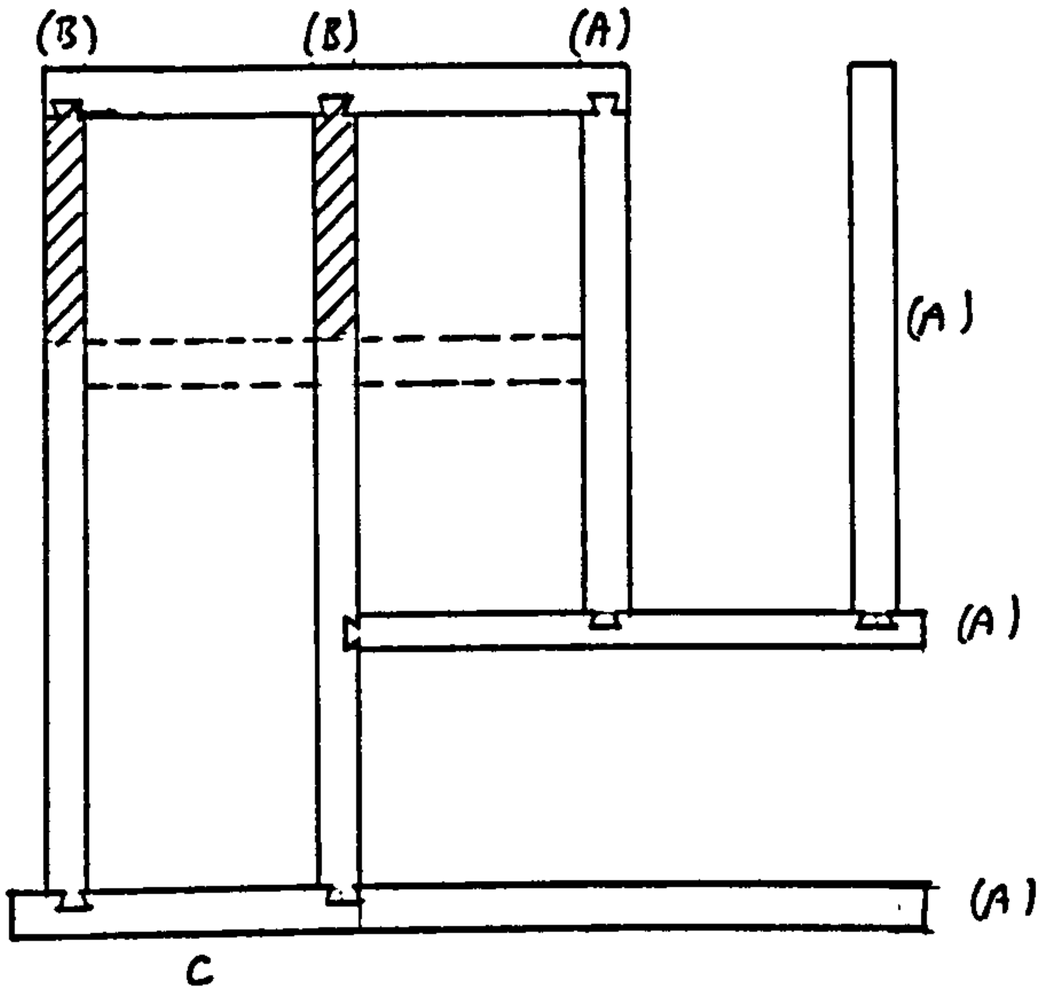
ANNO DOMINI 1629 — MR WILLIAM HAMMOND .

The bell-frame, which was removed (without making a measured drawing) in 1977 when the bells were rehung on rolled steel joists as a stationary chime[3], was designed for four bells and had been adapted to accomodate a ring of five which appears to have been completed during the 17th century[4]. It seems very probable that the original four-bell frame may have been that referred to in a bequest of 1516[5].

1. Framed founders' card in the tower.
2. CBN., p. 129.
3. Information from The Reverend David Cawley.
4. The churchwardens' accounts, kept at the church, begin in 1620, but are on loose sheets: the accounts for the years 1629 and 1647 are missing, and there are no significant entries referring to the bells.
5. 1516, John Snelling of Ellingham, NCC Spurlinge 197.

ELLINGHAM, St Mary the Virgin.

Sketch of bell-frame, not drawn to scale, by The Rev. D. Cawley.

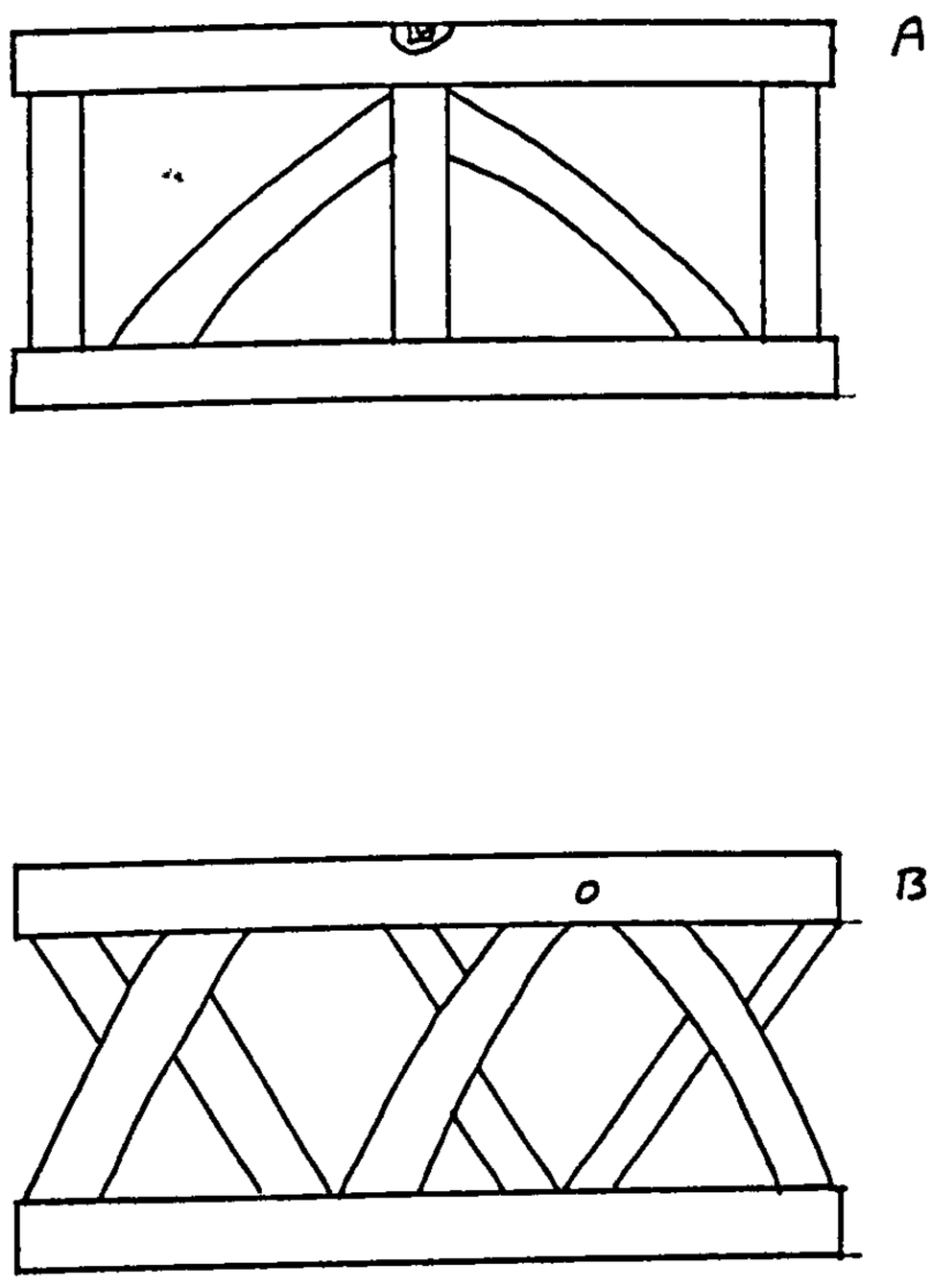


Unshaded portions reveal basic construction type.

Iron ends and N E side largely rebuilt and installed by Warner 1877.

Shaded portions extended by Brend c 1625 - 1640.

Frame removed in April 1977.



Communicated in a letter of 6 September, 1979.
The drawings are here copied, together with Mr Cawley's annotations and analysis of the structure.

GELDESTON, St Michael and All Angels. July 1978.

The small west tower is about 50 ft (16 m) high, having a lower round section of flint with few features to suggest a date, and a[illegible] belfry of flint with dressings of grey brick. A faculty petition of 1814 stated that the upper stage of the tower, which was ruinous and dangerous, could not be repaired without completely rebuilding the belfry: permission was given to sell two of the three bells and apply the proceeds to taking down the top 16 ft of the tower and rebuilding it to a height of 12 ft[1].

The single bell has a diameter of 39 1/2 inches (1000 mm) weighing approximately 11 cwt.

1. + Dona Repende Pia * Rogo Magdelena Maria.

There was a bequest for hallowing the bells at Geldeston in 1519[2], and the 1552 Inventory records bells of 3 cwt, 4 cwt and 5 cwt. The bell is an excellent casting from the pre-Reformation Norwich bell-foundry, possibly by John Aleyn[3]. The bell, which is hung dead and sounded by means of a chiming clapper, hangs in a bell-frame which appears to be of the same date as the octagonal belfry (c. 1814).

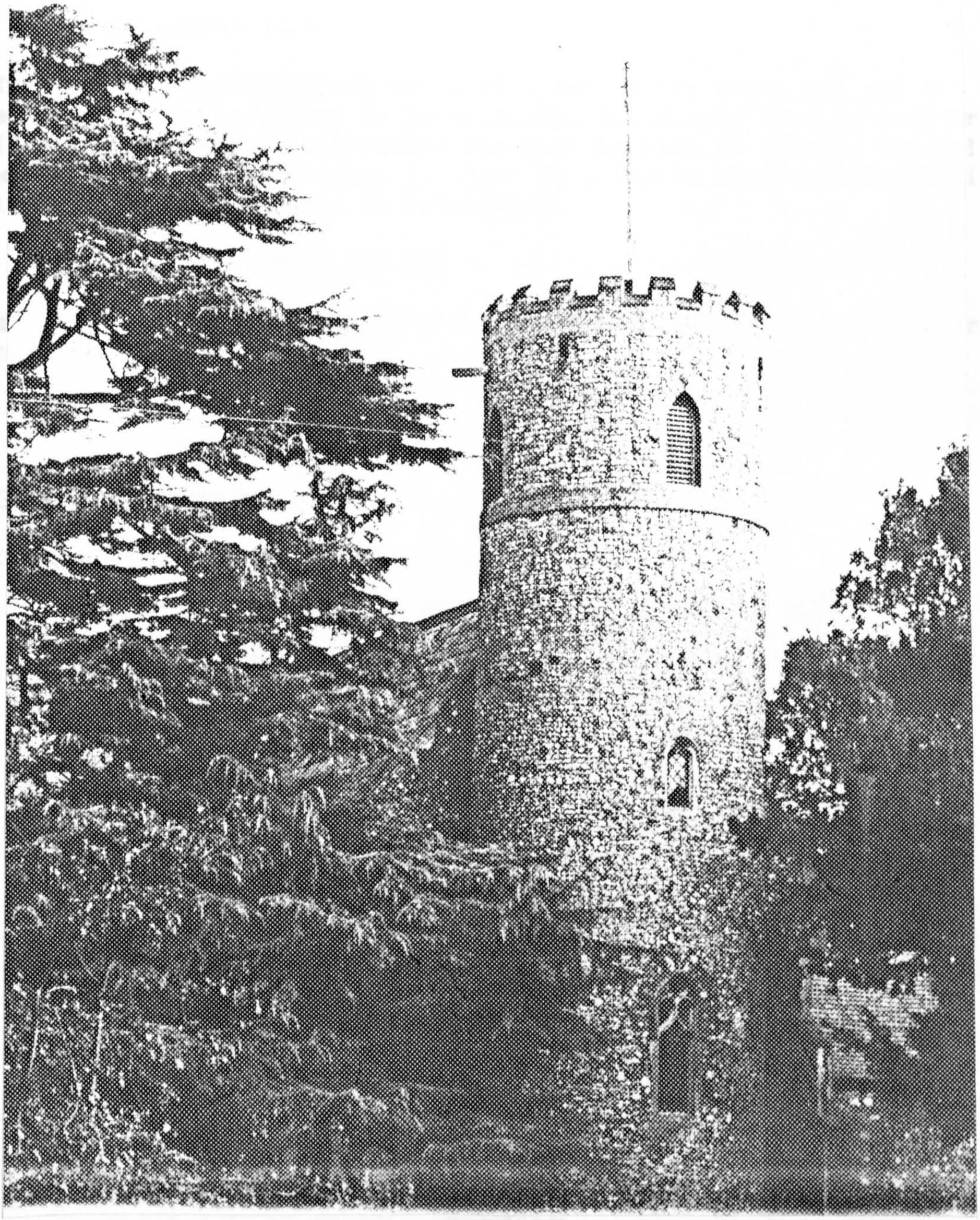
GILLINGHAM, St Mary the Virgin. August 1979.

The square tower, positioned between the nave and the baptistry of the church, is shown in an engraving of 1818[4] before the drastic restoration of 1858-1859[5]. In the engraving the lower parts of the tower appear almost exactly as they do at present, but there was a saddle-back roof surrounded by an embattled parapet. It would appear that the tower is basically excellent Norman work and that a parapet which had been added in about 1472[6] was removed during the restoration of 1858 - 1859.

1. NRO., NDR., FCB. 9, fo 123.
2. 1519, John Bonde of Geldeston, NAC Batman 351.
3. See p. 433.
4. *Excursions in the county of Norfolk*, London, 1818, usually in Volume 1, opposite p. 79. The engraving is by E. Roberts from a drawing by J. S. Cotman.
5. Pevsner, p. 171.
6. C&C.

GELDESTON

May, 1984.



Round tower with belfry of c. 1814.

The notes on these bells were made in great difficulty because of the large accumulation of jackdaws' nests in the tower and the absence of fixed access to the bell-chamber. The three bells are hung for swing-chiming and the tenor has a diameter of 30 1/4 inches (768 mm), weighing approximately 6 cwt.

1. ANNO DOMINI 1579
2. + SANCTA : TRINITAS : SALVA : ME
3. Anno Domini 1618

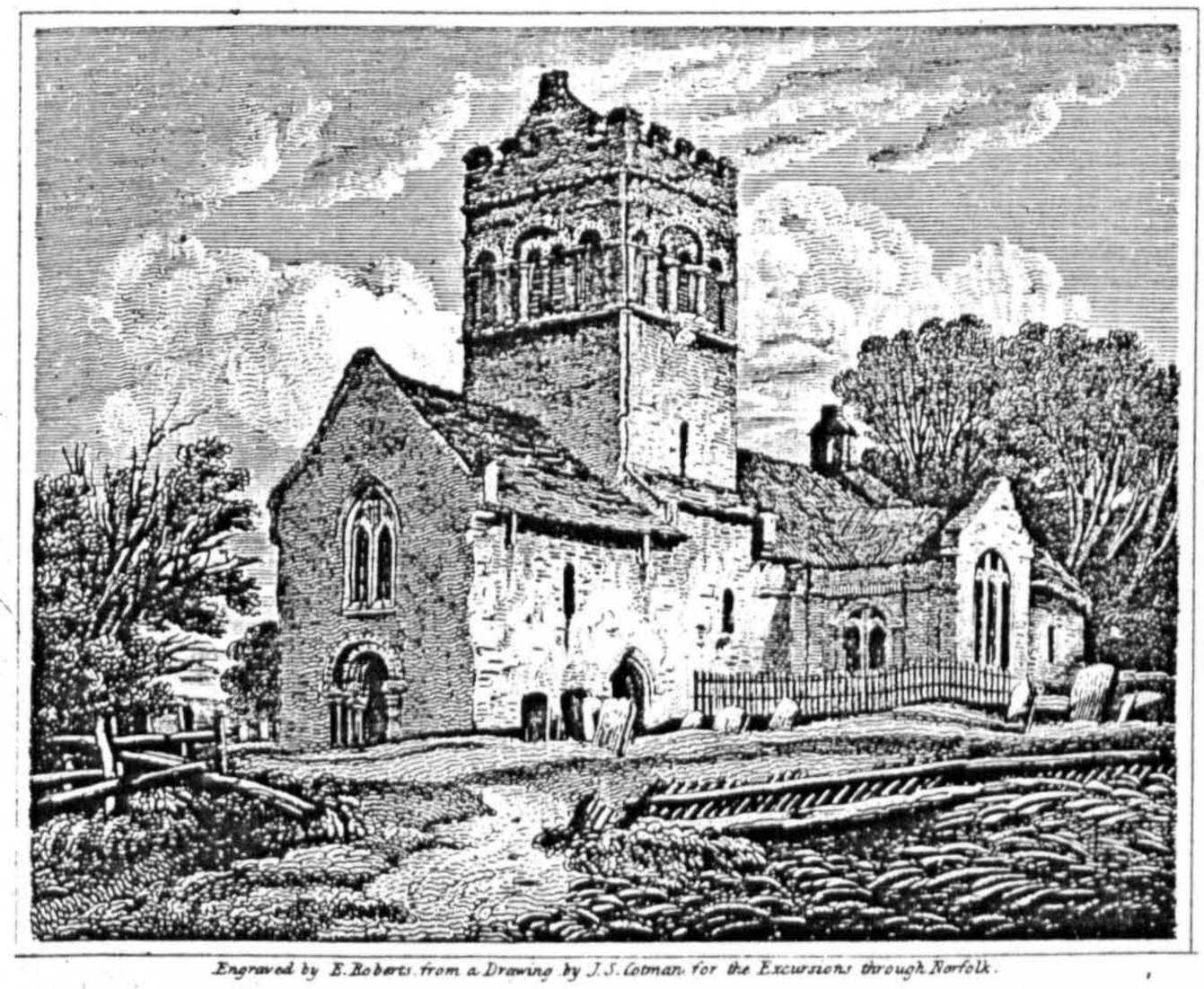
The 1552 Inventory records bells of 2 cwt, 4 cwt and 6 cwt and all the existing bells were cast by Norwich bell-founders. 1 is by John Brend I, 2 is a pre-Reformation bell[1] and 3 is by William Brend. The bells were rehung in new fittings in 1961[2] on a poorly constructed two-tier timber frame. The frame is inscribed:

TLW JT 1859 HUNG OCT 3RD

and it would appear that the frame is of the same date as the major restoration of the church.

GILLINGHAM

Copy of engraving of church. 1818.



Engraved by E. Roberts from a Drawing by J.S. Cotman for the Excursions through Norfolk.

GILLINGHAM CHURCH,

NORFOLK.

Pub.d March 1.1818. by Longman & Co Paternoster Row.

1. Probably 14th century, see p. 440.
2. The date is cast into the headstocks.

HADDISCOE, St Mary the Virgin. October 1978.

The round west tower is very well constructed of flint with limestone dressings and is described as belonging to the period of the 11th-century Saxon-Norman overlap. There is a tall chequered flushwork parapet, of much later construction[1].

The bells are a ring of five, tenor diameter 32 1/2 inches (890 mm) weighing 5 cwt 2 qr 4 lbs and sounding B flat[2].

1. Uninscribed
2. IOHN BREND MADE ME 1638
3. IOHN DAWSON & THOMAS HEATH C. WARDENS 1739
4. EDW: TOOKE MADE ME 1679
5. BENIAMIN SHIPMAN RECTOR IOHN DAWSON & THOMAS HEATH CW 1739

There were bequests to the bells in 1444, 1497 and 1501 (2)[3]; and the 1552 Inventory records bells of 7 cwt and 9 cwt. 3 and 5 are inscribed in the capitals used by Thomas Newman of Norwich, and the mouldings on the treble bell are identical in design to those on the bells of 1739. The bells were rehung in a new metal frame in 1966 by Taylors of Loughborough[4].

HALES, St Margaret. May 1979.

The round tower, which is described as Norman work[5], has traces of round windows at the level of the ground-floor chamber and lancet-shaped sound-windows at the level of the bell-chamber.

L'Estrange noted two bells inscribed:

1. IHC : NAZARENUS : REX JVDEORVM
2. MARGARET : A : DEI : NOS : PRESENTET : SPEI

and ascribed them to the pre-Reformation King's Lynn bell-foundry[6]. The 1552 Inventory records bells of 2 cwt and 3 cwt. The smaller bell, which was in the tower in 1967 when The Reverend David Cawley reported that the diameter was 28 3/4 inches (739 mm), was subsequently removed to the museum at King's Lynn[7]. The bell-frame is for a single bell and appears to be comparatively modern.

1. Pevsner, p. 182.
2. Details from a framed notice in the belfry.
3. 1444, John Mattyson of Haddiscoe, NCC Doke 234.
   1497, John Kyrton of Haddiscoe, NCC Multon 69.
   1501, Joanna Ston of Haddiscoe, NCC Popy 19.
   1501; John Chapman of Haddiscoe, NFK Davy 2.
4. See note 2.
5. Pevsner, p. 183.
6. CBN., p. 139.
7. Ms. report to the Council for the Care of Churches, 1967.

HECKINGHAM, St Gregory. July 1979.

The lower stage of the tower (16 ft, 5 m approximately) is round and appears to have been added to an earlier church, whose south doorway has an impressive Norman arch of four orders set in a wall of neatly coursed flintwork. The inclusion in the tower fabric of discarded limestone, including a section of excellently carved billet moulding, may imply the destruction of an earlier west wall, and the fact that the details of the lower section of the tower are formed in neatly cut and squared limestone suggests a late Norman date for this section.

A major rebuilding of the church is suggested by a will of 1453[1] and it would have been necessary to increase the height of the tower before erecting a higher roof to the nave. It appears that the round tower was, in fact, increased in height in two distinct phases by the addition of octagonal sections. The lower octagon, about 12 ft (4 m) tall, is of flint with brick details and is probably early 15th-century: the upper octagon, about 16 ft (5 m) tall, is also of flint and brick but shows marked differences in construction. The lower octagon may date from the rebuilding of c. 1453[2]; and the upper octagon could well have been built after the raising of the nave roof as suggested by bequests of 1487 and 1507[3].

There is a single bell, diameter 28 1/4 inches (716 mm) weighing approximately 4 cwt.

1. THOMAS NEWMAN FECIT 1712

L'Estrange notes this as the smaller bell of a pair[4], and he gives the inscription on the larger bell, which was cracked, as:

Anno Domini 1631.

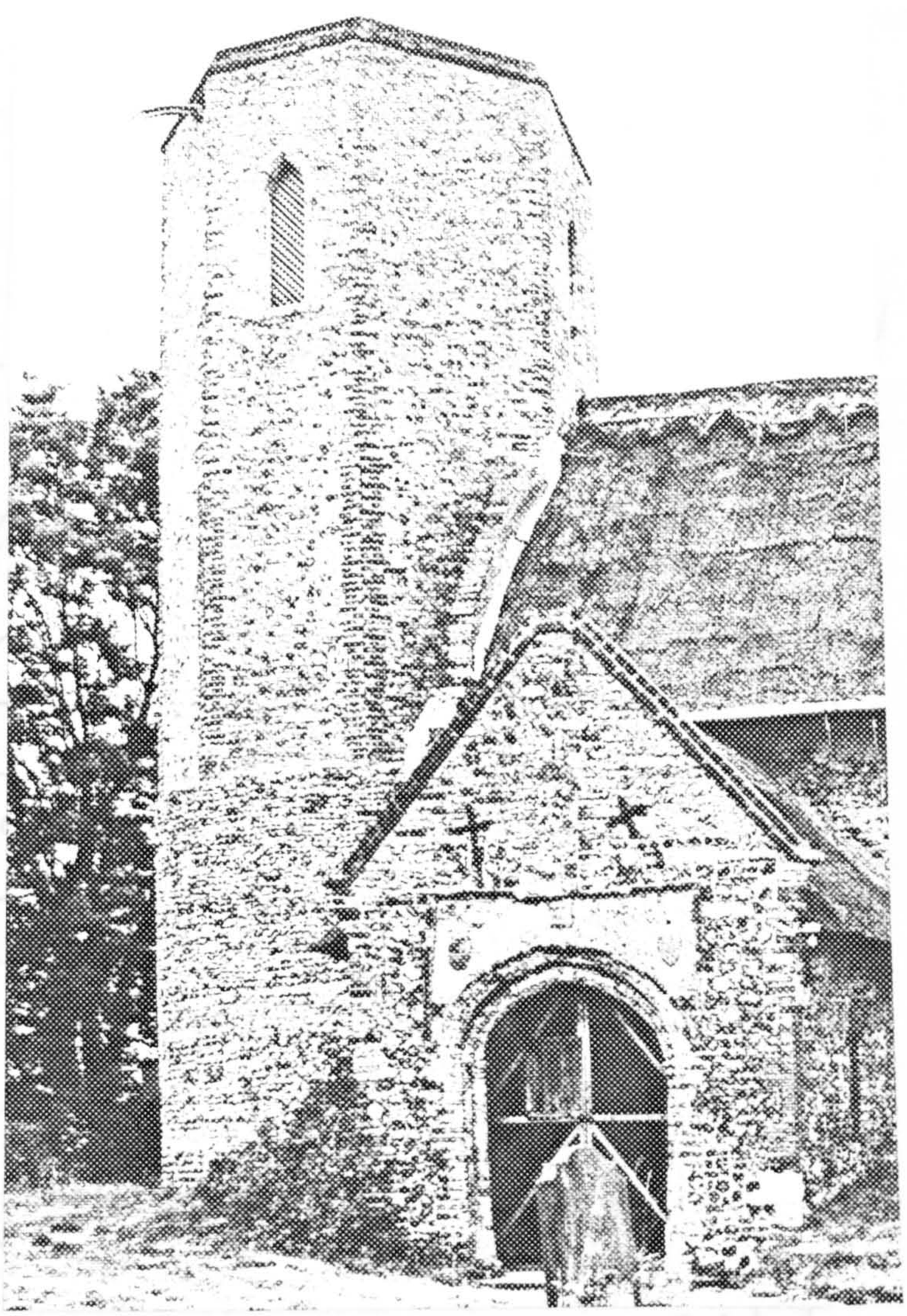
The 1552 Inventory records bells of 2 cwt and 3 cwt.

The position of the bell-frame appears to have been moved down from a former place at the level of the sound-windows in the upper octagonal section of the tower. The three parallel trusses of the frame have braced king-posts, and the end-posts have a pronounced jowl[5]. A comparison of the frame with that at Little Melton suggests an 18th-century date[6].

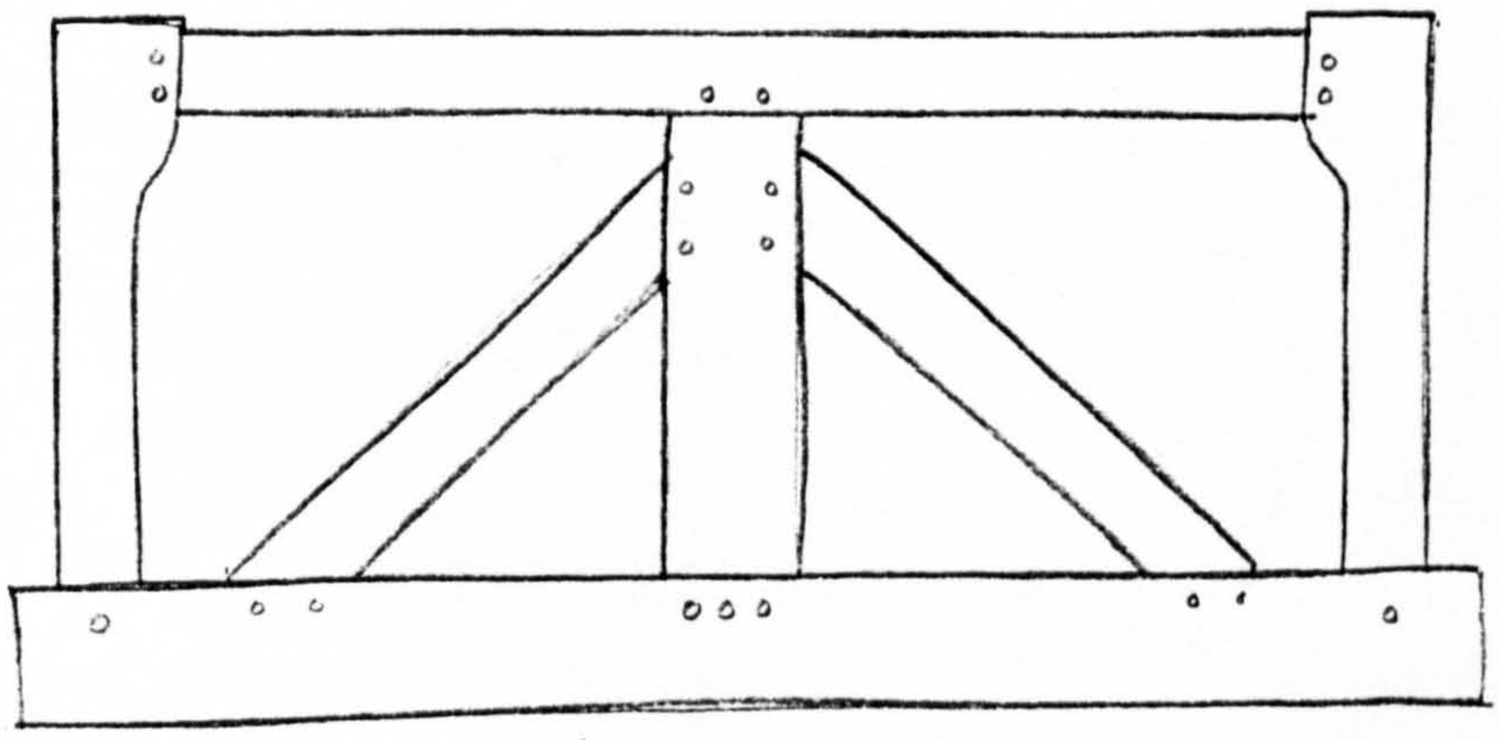
1. C&C.
2. C&C.
3. C&C.
4. CBN, p.142.
5. See diagram.
6. See sketch of frame at Little Melton, p. 61.

HECKINGHAM

July, 1979.



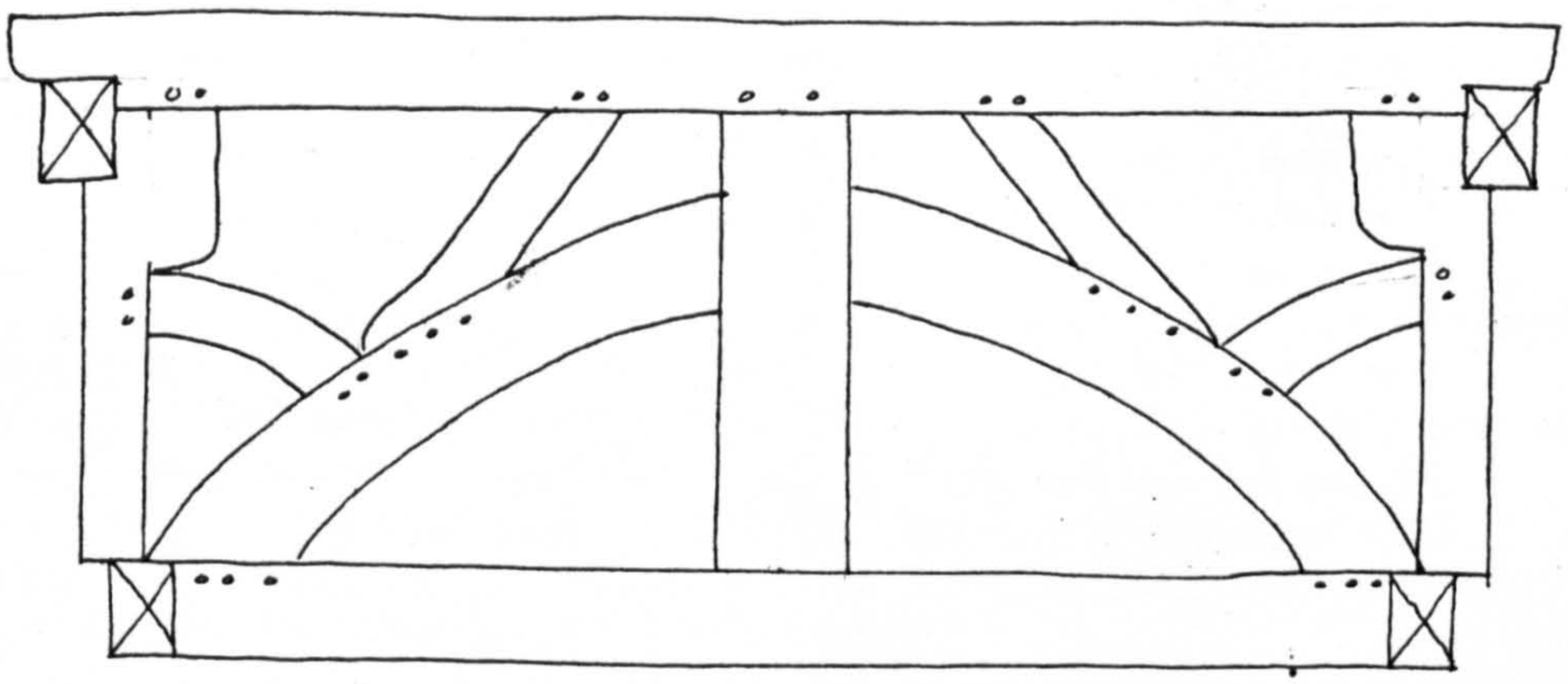
Norman round tower with later octagonal upper stages.



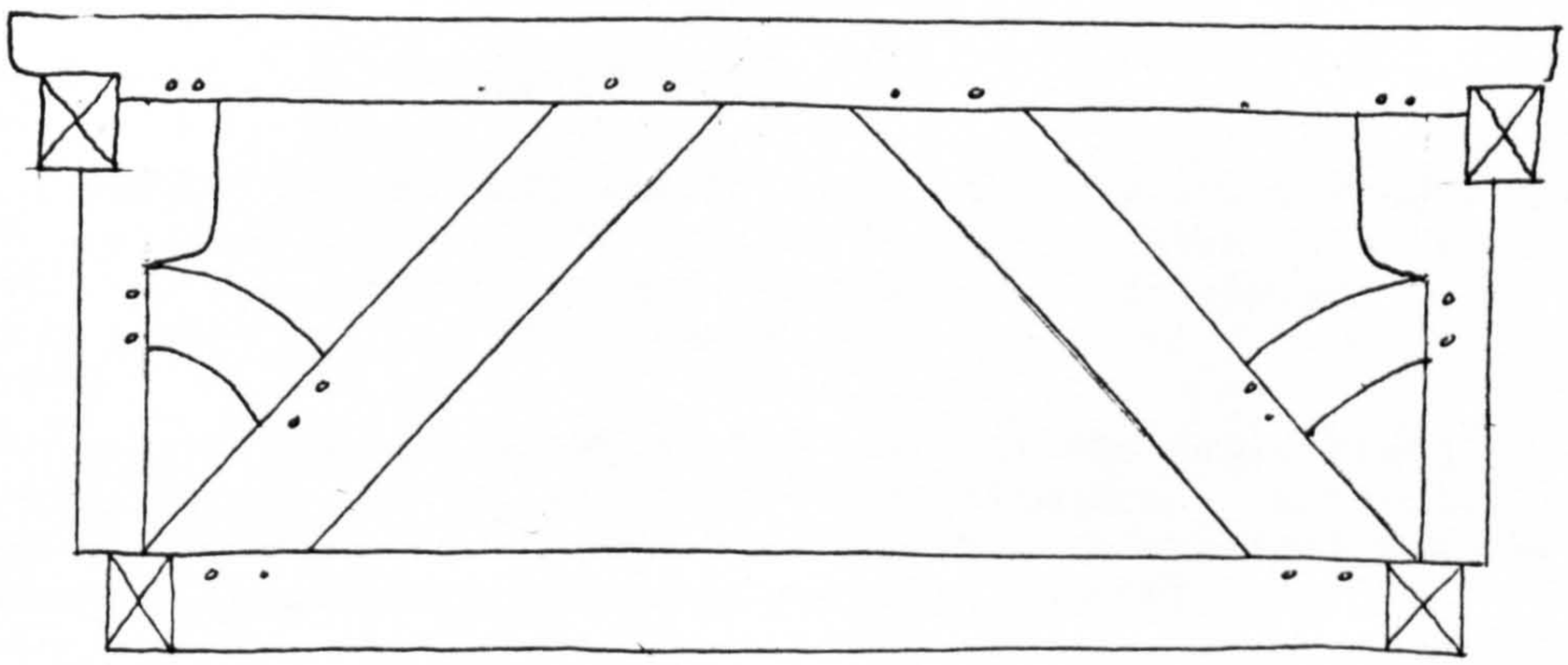
Truss of bell-frame, probably 18th century.

LITTLE MELTON

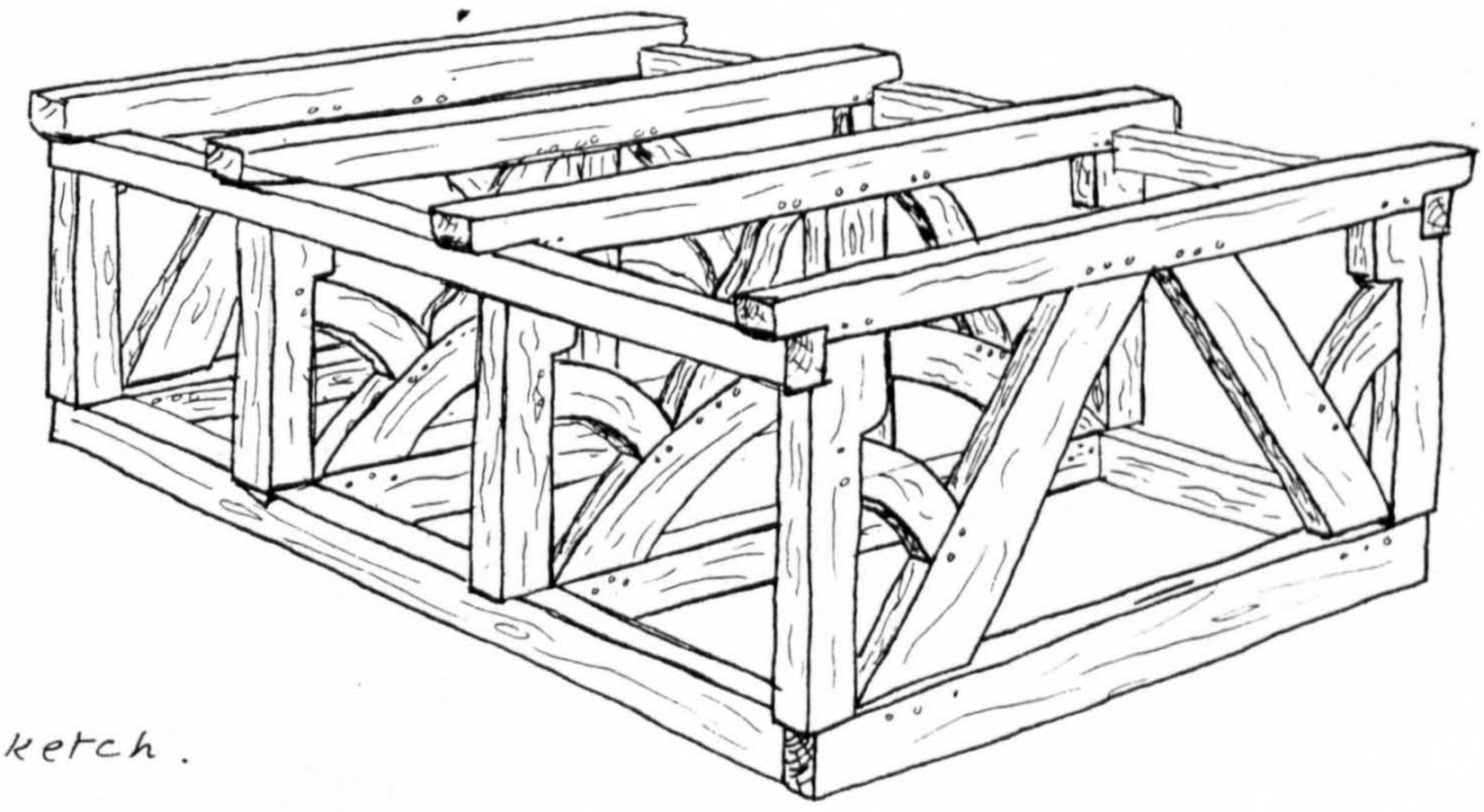
December, 1978



Trusses of central pit



Trusses at extremes of outer pits



Perspective sketch.

Sketches of the bell-frame which appears (from a carved date) to have been substantially repaired in 1726. Compare the jowled end-posts with those at Heckingham.

HOWE, St Mary the Virgin. August 1979.

The round tower has a conical tiled roof and is at the west end of an unaisled church which is usually described as Anglo-Saxon[1]. The lower part of the tower has a number of details, including double-splayed window openings, which are consistent with an early date, and it would appear that this section of about 35 ft (11.5 m) is Anglo-Saxon. It is clear from inside the tower that the upper section of about 20 ft (6.5 m) is of different construction: the walling is very much thinner and includes less tile and conglomerate than is used in the lower part. There are no openings in the upper section of the tower, and it is likely that the sound of the bells escaped through a dormer in a roof similar to the present one. It seems very probable that the upper section was added in c. 1417 when the considerable sum of 100 shillings was left to the repair[2] of the tower.

There is a single bell, diameter 32 inches (813 mm) weighing approximately 6 cwt.

1. THOMAS NEWMAN AT NORWICH MADE MEE 1702

There was a bequest for work on the bells in 1517[3], which included the gift of an oak tree, and the 1552 Inventory records bells of 4 cwt and 8 cwt. The existing bell is an excellent casting and appears to be the earliest extant work of Thomas Newman[4].

The present bell-frame, installed at the level of the Anglo-Saxon sound-windows, is a flimsy structure designed with braced king-post trusses for a single bell. It cannot be linked with the 1517 bequest since it could not have held the bells recorded in 1552.

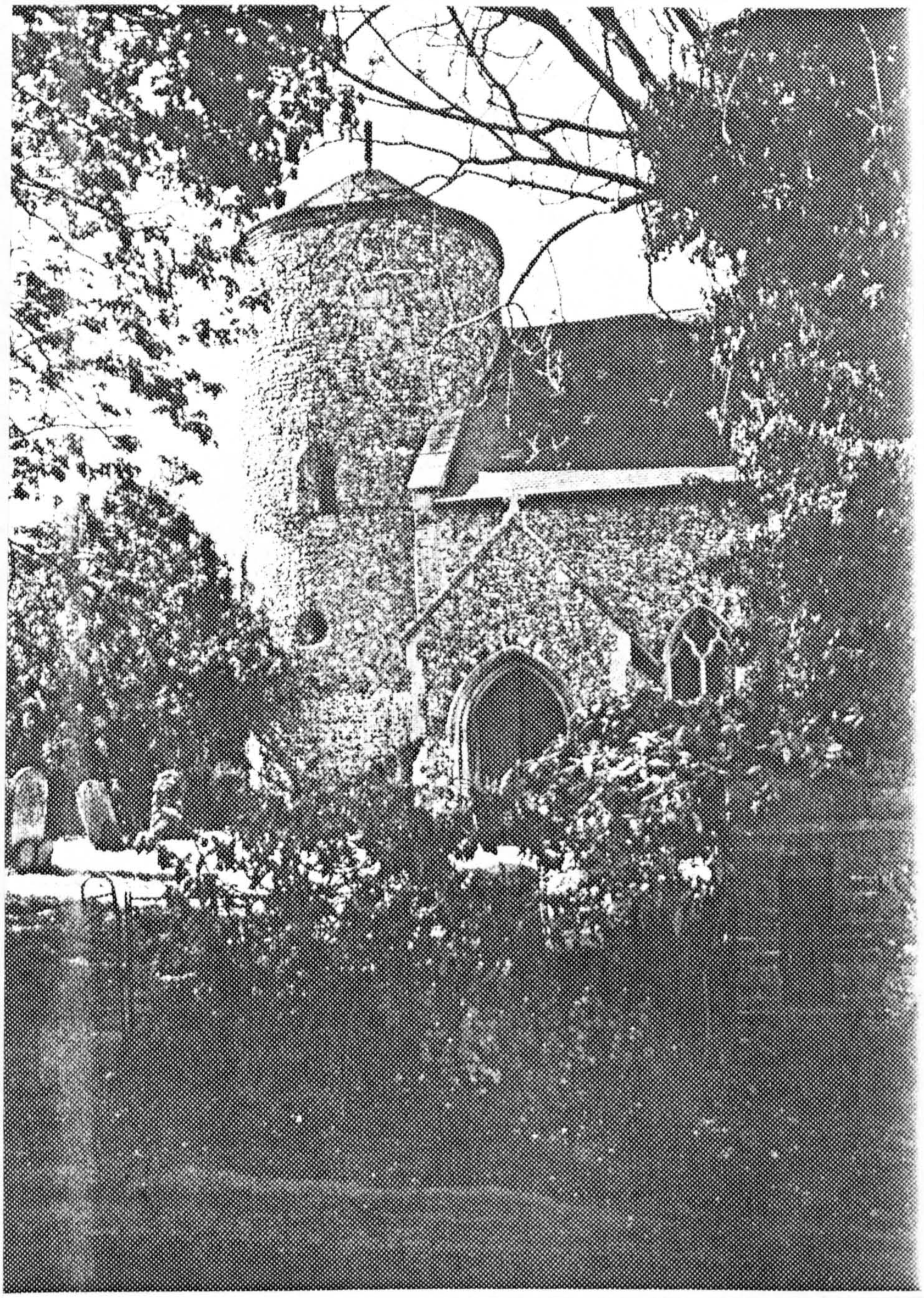
KIRBY CANE, All Saints. January 1981.

The round tower is considered to be Anglo-Saxon in its lower stages[5], but above the height of about 30 ft (10 m) it is considerably later. In contrast with the lower part of the tower the top 20 ft (6.5 m) or so shows considerable use of brick, particularly in the soffits of windows and in the put-log holes. There are no bequests to work on the tower, and the structural details do not give any clear indication of the date of the upper part.

1. Pevsner, p. 211.
2. C&C.
3. 1517, Robert Hakon of Howe, NFK Batman 165.
4. See p. 448.
5. Pevsner, p. 238.

HOWE

May 1984.



Anglo-Saxon tower with upper stage of c. 1417.

The bells are a derelict ring of five, wildly out of tune, and were last rung in the 1920's[1]. The tenor has a diameter of 33 1/2 inches (850 mm) weighing approximately 7 cwt and sounding A.

1. ANNO DOMINI 1626

2. EDW: TOOKE MADE ME 1677

3. EDW: TOOKE MADE ME 1677

4. THOMAS MEARS OF LONDON FECIT
   RECAST 1811 BY MR. WM. ABBOTT CHURCHWARDEN.

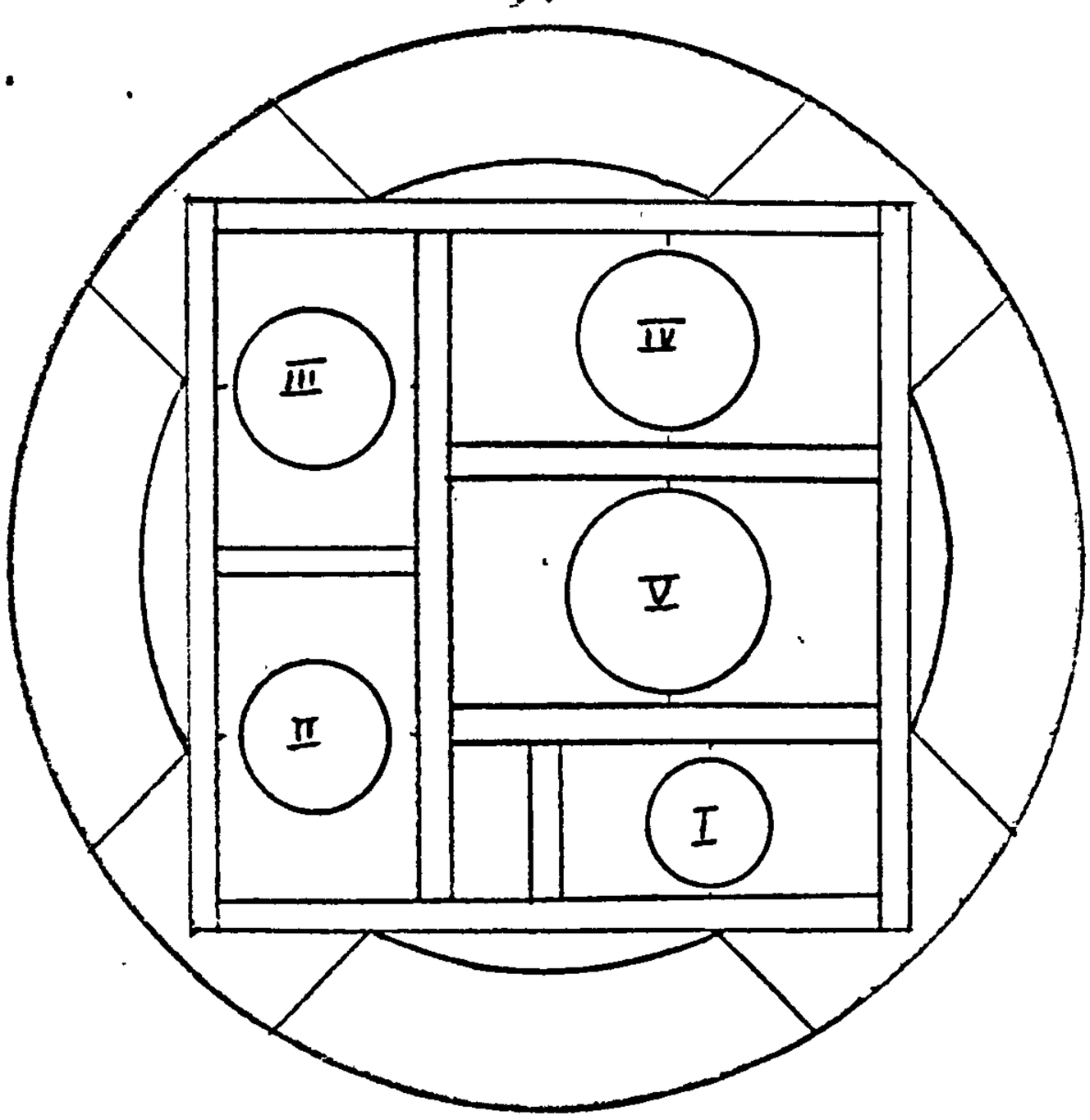
5. ANNO DOMINI 1626
   NICHOLAIES WARMOULD WILLIAM STANNORD CHURCH S.

The 1552 Inventory records bells of 3 cwt, 5 cwt and 7 cwt, and 1 and 5 of the present ring are the work of William Brend of Norwich.

The bell-frame is designed for the existing ring of five bells. It has features in common with the frame at Aslacton[2], including the design of the braces and foundation members, although the plan of the frame is different[3]. The frame is probably no earlier than 1626, and may well be rather later.

KIRBY CANE

Unmeasured plan of bell-frame.



1. Information from Mr. H. W. Barrett, who rang there.
2. See p. 92.
3. See diagram above.

NORTON SUBCOURSE, SS Mary and Margaret. July 1979.

The round west tower is placed north of the centre line of the nave and appears to have been built in three distinct phases. The earliest section is a two-stage tower of about 30 ft (10 m) with an off-set for the first floor remaining in the present ringing chamber, where the archway through to the nave at ground level has been so much cut about as to have no recognisable architectural details. At the level of the former second-floor chamber, and above the ceiling of the present ringing-chamber, are four blocked openings: those to the north, west and south appear to have been large sound-windows, and a smaller opening to the east has been extended downwards to form a doorway through to the nave above the tower arch. The second stage of the tower, which has every appearance of Norman work and is about 12 ft (4 m) high, has two rows of windows with external details of limestone and rough internal arches of hard mortar. The top stage of the tower, about 15 ft (5 m) high, is different again and has sound-windows with limestone jambs, voussoirs and 'Y' tracery, but internal details of brick.

The date, 1319, of surviving contracts for the construction of new roofs to the nave and chancel[1] agrees with the uniform design of the church, suggesting that a major reconstruction took place in the early 14th century. It appears that the asymmetrical position of the tower is due to the 14th-century extension of the church to the south and east, and it is very likely that the height of the tower was increased at about the same time.

The bells are a ring of six, tenor diameter 39 1/2 inches (1000 mm) weighing 10 cwt 1 qr 15 lbs and sounding G^2.

1. CAST BY JOHN WARNER & SONS LTD 1893
   GIVEN BY A. THACKERAY M. A. VICAR 1893

2. CAST BY JOHN WARNER & SONS LTD 1892
   GIVEN BY A. THACKERAY M. A. VICAR 1892

3. Anno Domini 1622

4. THO: NEWMAN MADE MEE JOHN GARWOOD C. W. 1730

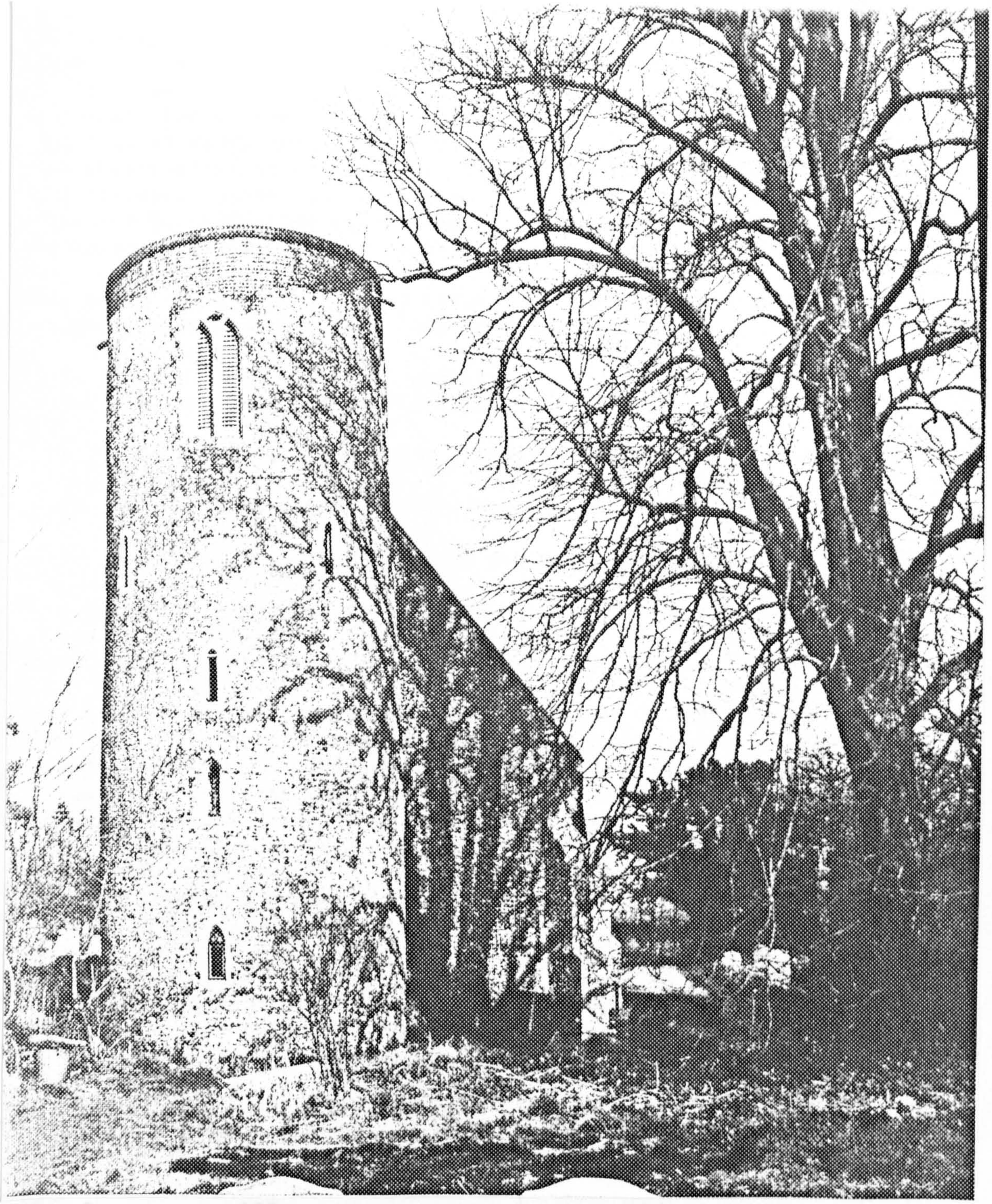
5. EVEN AS GOD WILL SO BE IT AD. DO. 1593
   RECAST 1951 IN MEMORY OF
   ARTHUR T. J. THACKERAY VICAR 1885 - 1925.
   (Also Whitechapel Foundry mark)

6. Anno Domini 1622

The 1552 Inventory records bells of 2 1/2 cwt; 3 cwt,
and 3 and 6 of the present ring are by William Brend c
was 5, whose former inscription has been reproduced ir
As recorded on a brass plate in the church, the bells were rehung in a new metal frame by Taylors of Loughborough in 1964.

1. C&C.
2. Framed card in the tower.

July 1979.



Norman round tower with 14th century belfry.

RAVENINGHAM, St Andrew. 21 May 1979.

Internal details, including a semi-circular-headed arch to the nave, suggest a Norman date for the round part of the tower, which forms the lowest 30 ft (10 m) or so. The blocked remains of large sound-windows are visible inside the tower at the level of the first-floor chamber; and the openings, which are formed without the use of freestone, have arches of hard mortar. The octagonal bell-chamber which forms the top 15 ft (5 m) or so of the tower is constructed entirely of brick, and the eight lancet sound-windows have external dressings of limestone. The outside rendering of the tower disguises the differences in the two phases of construction, and it would appear that the addition of the octagonal belfry to the Norman round tower took place rather later than the Early-English date suggested by Pevsner[1]: the design has much in common with the similar belfry at Heckingham (c. 1500)[2].

The bells are a ring of five, tenor diameter 36 inches (915 mm) weighing approximately 8 cwt and sounding A.

1. CAST BY JOHN WARNER & SONS 1888
   THE GIFT OF NICHOLAS HENRY BACON

2. + TUTRIX : ESTO : PIA : M : SEPER : VIRGO : LUCIA

3. CAST BY JOHN WARNER & SONS 1885
   HUNG BY G. DAY & SON EYE
   THESE BELLS WERE RESTORED BY N H BACON ESQ 1885

4. EDW:TOOKE MADE ME 1676

5. Anno Domini 1617

The 1552 Inventory records bells of 4 1/2 cwt, 5 1/2 cwt and 7 cwt, and 2 is a pre-Reformation bell from the Norwich bell-foundry; probably cast by John Magges[3]; 5 is by William Brend of Norwich. The three bells recorded by L'Estrange[4] were increased to four in 1885 by the insertion of a bell between the former treble and second bells, and the ring of five was completed by the addition of a new treble in 1888. The four larger bells are hung in a frame dated 1885 and the treble hangs in a separate frame above them.

1. Pevsner, p. 289.
2. See notes on Heckingham, p. 59.
3. See p. 435.
4. CBN., p. 195.

STOCKTON, St Michael and All Angels. July 1978.

External rendering of the round west tower conceals the two distinct phases of construction. The lower 30 ft (10 m) or so of the tower are of rough flintwork, and there are two very small splayed circular windows at the level of the first floor chamber. The upper 15 ft (5 m) or so of the tower have thinner walling, and the small lancet windows of the bell-chamber are constructed of flint and brick with external dressings of limestone. In the absence of bequests and firm architectural evidence it is only possible to say that the round windows in the lower part might well indicate an Anglo-Saxon or early Norman date, and that the lancet sound-windows might be as late as c. 1500[1].

The bells are a derelict ring of five, tenor diameter 36 1/2 inches (927 mm) sounding A.

1. S MARFREY D TURNER CHURCHWARDENS
   T MEARS OF LONDON FECIT 1821

2. Anno Domini 1621

3. + Quesumus Andrea * Famulorum Suscipe Vota

4. DANIEL BATLEY ROBART IARROD CHURCHWARDENS I S 1721

5. + Hec Fit Scorum * Campana Laude Bonorum

The 1552 Inventory records bells of 3 cwt, 4 cwt and 5 cwt; and 3 and 5 are pre-Reformation bells of exceptionally fine quality from the Norwich bell-foundry, probably by Richard Brasyer II[2]. 2 is by William Brend and 4 is by John Stephens, both of Norwich.

The bell-frame, designed for a ring of four, has been extended to accommodate a fifth bell. The foundations of the frame are jointed together on a single level and the frame is supported on a stout floor. The original plan consisted of four pits arranged around a central space and the trusses have braced king-posts. It is not possible to be sure when the augmentation to five bells took place[3], but comparison with pre-Reformation frames on a similar plan at Bedingham and Shimpling, where the foundations are on two or three levels, suggests a 17th-century date for the Stockton frame where the foundations, as at Aslacton and Shelton[4], are on a single level. The bells were rehung in 1896[5], but have not been rung since the 1920's[6].

1. For comparison see notes on Heckingham, p. 59.
2. See p. 431.
3. The churchwardens accounts begin in 1625 (NRO., microfilm 3311) and do not, therefore, record the bell-founder's work of 1621. There are no extant accounts for the year 1821.
4. See pp. 92, 129, 182, 244.
5. Date inscribed on the bearing blocks.
6. Information from the late Mr. G. Walpole of Norton Subcourse.

THORPE-NEXT-HADDISCOE, St Matthias: October 1978.

The round west tower is described as Anglo-Saxon in the lower part with a Norman bell-chamber[1].

Of the two bells, which are hung for full-circle ringing, the larger has a diameter of 29 1/2 inches (746 mm), weighing approximately 4 1/2 cwt.

1. ANNO DOMINI 1632
2. + ORA : MENTE : PIA : PRO : NOBIS : VIRGO : MARIA

There was a bequest for bells in 1506[2], and the 1552 Inventory records bells of 3 cwt and 4 cwt. The larger bell was cast by a pre-Reformation Norwich bell-founder, probably John Magges[3], and the smaller bell is by William Brend of Norwich. The bells are hung in a frame which dates from 1907[4].

THURLTON, All Saints. July 1979.

The square west tower is constructed of flint with external details of limestone and brick. The lower stages of the tower, to a height of about 40 ft (13 m), are of uniform construction and the three-light window to the ground-floor chamber is similar in design to certain windows in the nave of Beccles church, which was under construction in 1369[5]. The upper stage of the tower shows a great deal of brickwork on the inside, and the details of doorways and window openings are of brick. The design of the bell-chamber sound-windows is very similar to those at Morningthorpe, which were under construction in c. 1504[6].

The bells are a ring of five, tenor diameter 38 3/4 inches (984 mm) weighing approximately 10 cwt and sounding G sharp.

1. ANNO DOMINI 1632
   THO DENNY (between the cannons)

2. THES 5 BELLS WEAR MADE BY MR THOMAS DENNY
   CHVRCHWARDEN OF THVRLETON AO. DO. 1632

3. ANNO DOMINI 1632

4. ANNO DOMINI 1632
   I A A G (between the cannons)

5. ANNO DOMINI 1632
   THO DENNY IOHN DENNY (between the cannons)

1. Pevsner, p. 350.
2. 1593, Robert Heydon of Haddiscoe, NFK Davy 35.
3. See p. 425.
4. HBF.
5. Pevsner (S), p. 80.
6. See p. 123, also C&C.

The bells are the earliest complete ring of bells of a single date in Norfolk[1], and there is every reason to take the inscription on the second bell at face-value. It is very likely that the bells were cast in the village under the direction of the churchwarden and the supervision of a representative of the Norwich bell-foundry, whose lettering and patterns have been employed[2]. The bells were rehung in 1878[3], and the frame, which appears to be of that date, incorporates earlier timbers.

TOFT MONKS, St Margaret. July 1979.

The outside of the west tower is octagonal from the ground through to the parapet, and the total height is about 45 ft (15 m). Apart from the flushwork of the stepped parapet, the tower is uniformly constructed of rough flints with limestone dressings. In the two lower stages of the tower the openings, which are neatly formed in limestone, include a round-headed lancet, three pointed-headed lancets, and four circular openings. The topmost stage of about 18 ft (6 m) has large lancet windows with pointed heads in each of the eight faces, and each lancet is flanked by two narrower blind windows.

Inside the tower the construction is far from uniform, and the internal plan of the lower stages of the tower is circular, with very rough flintwork. The lancet openings to the first-floor chamber have deep splays, constructed without brick or limestone, and the soffits of the arches are of hard mortar. The openings which show as circles on the outside of the tower appear from the inside as modified versions of semi-circular headed sound-windows. The original windows had wide internal splays, with hard mortar soffits, and the adaptation to round windows has been accomplished by building half-walls to block the lower parts of the openings. From the inside it can be seen that the top stage of the tower is built largely of brick and is internally octagonal.

Pevsner's interpretation of the tower[4], which was probably made without observing the inside, is that the tower is Norman in origin, and that it was encased in an octagonal facing in the 13th century. It seems more likely that the facing of an earlier round tower, and the completion of an octagonal belfry, may be as late as 1464[5]. The liberal use of brick in the upper stage of the tower strengthens this suggestion, and there are local parallels in the 15th-century use of lancet sound-windows at Heckingham[6].

1. CBN, *passim*.
2. The churchwardens accounts for Shipdham (at NRO since 1979, uncatalogued) show that when a ring of five bells was cast in 1616 the work was undertaken by the churchwardens under the supervision of John Draper, bell-founder, of Thetford. It is very likely that a similar procedure was adopted at Thurlton.
3. The date in inscribed on the bearing blocks.
4. Pevsner, p. 357.
5. C&C.
6. See note on Heckingham, p. 59

TOFT MONKS

July 1979

Round tower refaced and extended on an octagonal plan, probably in c. 1464.

The west wall of the nave and the associated openings into the tower are of sufficient interest to merit a separate description. A sturdy horizontal string-course runs above the tower arch for the complete width of the nave at a height of about 13 ft (4 m) above the church floor and a second, narrower string course runs horizontally at a height of about 22 ft (7.5 m). Between the two string-courses are four openings which include a centrally placed, round-headed arched doorway giving access to the tower at first-floor level, and small, deeply-splayed windows with semi-circular heads on either side of the tower at the north and south ends of the west wall. To the north of the doorway is a deep cupboard with a rebate for a door, and a bottom cill at a height of about 3 ft (1 m) above the stringcourse[1]. It is suggested that there was formerly a gallery within the west end of the church, and the style of the windows and other openings implies a Norman date. There is also a smaller cupboard in the thickness of the west wall of the church which opens from the south jamb of the doorway and has a recess for a heavy locking bolt. The purpose of the gallery may well have been for the accomodation of a sacristan or other church official who would have been able to observe the interior of the church[2], and the cupboards described could well have accomodated the church valuables. A second doorway at a higher level probably gave access from the tower to the space between a ceiling and a high-pitched nave roof.

The bells are a chime of three, tenor diameter 42 1/4 inches (1073 mm) weighing approximately 14 cwt and sounding F sharp.

1. SAMVEL GILPIN ME: FECIT 1700
   RECAST 1963 (Taylor's foundry mark)
   ARTHUR BUTCHER VICAR
   D CURTIS)
   N CURTIS) CHURCHWARDENS

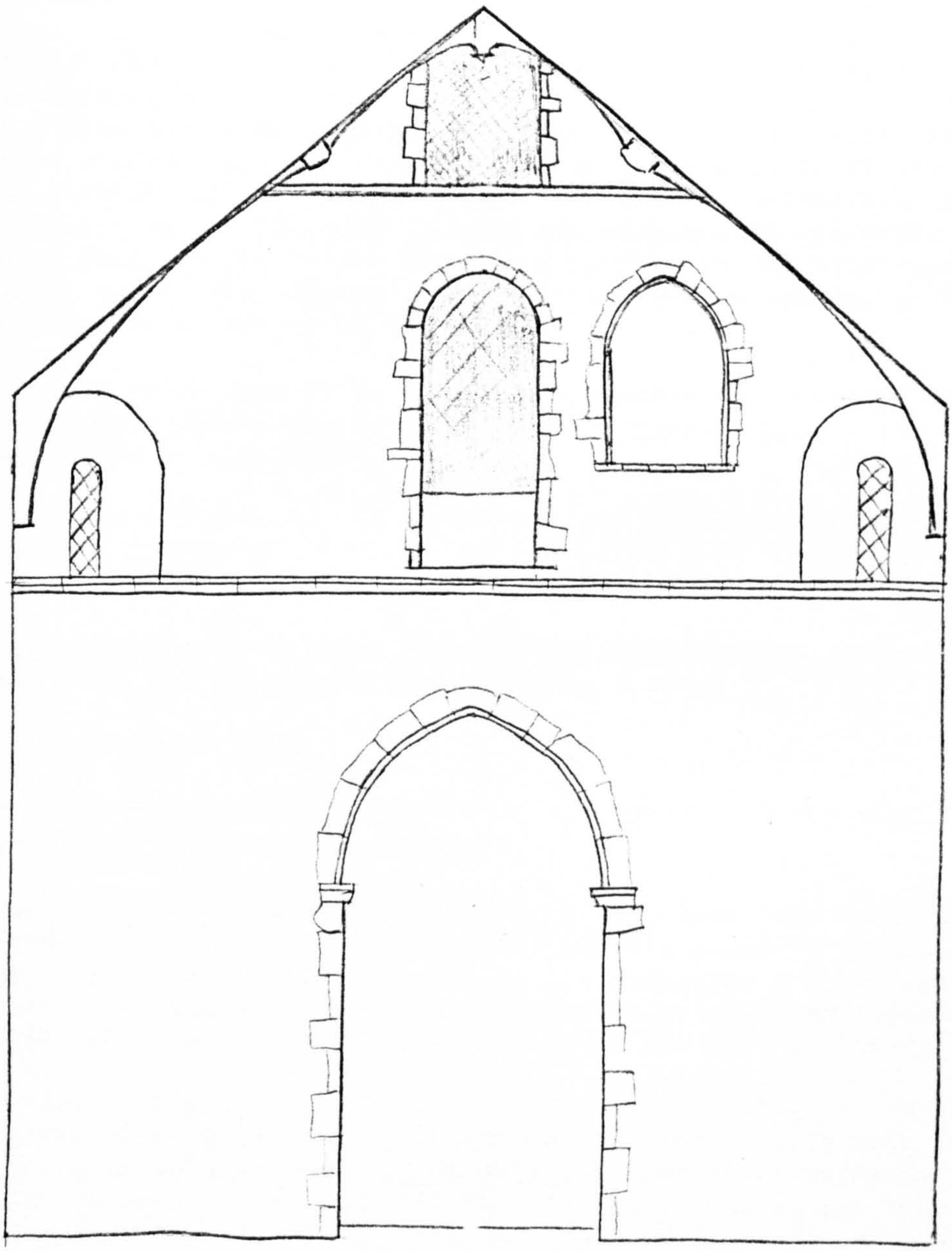
2. + Petrus Ad Eterne * Ducat Nos Pascua Vite

3. + Munere Baptiste * Benedictus Sit Chorus Iste

The 1552 Inventory records bells of 4 cwt, 5 cwt and 6 cwt, and 2 and 3 are fine pre-Reformation bells from the Norwich bell-foundry. They may probably be dated by bequests in 1464 and 1470[3] and appear to be the work of Richard Brasyer I[4]. The bells are hung dead for stationary chiming from a pair of rolled steel joists.

1. See sketch p. 73.
2. See p. 294, note 3, for an instance where deacons were required in 1422 to sleep in church and watch over the books and ornaments.
3. 1464, John Stroude of Toft Monks, NCC Brosyard 336.
   1470, Richard Gaye of Toft Monks, NFK Gray 299.
4. See p. 431.

TOFT MONKS



Unmeasured sketch of the west wall of the nave.

WHEATACRE, All Saints. April 1979.

The square tower is set at the west end of an unaisled nave and its design is unique among Norfolk churches. No other pre-Reformation tower shows such free structural and decorative use of brick, and no other tower has a similar severe and rectilinear appearance. The tower appears to be constructed entirely of brick and the stair projection has a brick vise, at the head of which is a small vault of excellent workmanship. The plastered and limewashed arch to the nave is of moulded brick, and the west doorway has a segmental brick arch (with three orders of moulding and a square label) beneath a large west window (of three lights, with simple tracery and mullions of moulded brick). The ventilator openings (at the level of the first floor chamber) and the sound-windows are arched internally, but are rectangular externally with details and mullions of limestone. Flint is used decoratively rather than structurally in the buttresses and parapet, and in the unusual chequer-work facing which is, perhaps, the most impressive feature of the tower.

The tower, which appears to have been constructed in single campaign, seems to have survived with only very minor restoration, and its date is suggested by a bequest[1], in 1522,

> 'to the edifieng of the stepull in the said town of Whetacre Omnium Sanctorum'.

The single bell, by William Brend of Norwich, has a diameter of 30 inches (762 mm) and weighs approximately 5 cwt.

1. Anno Domini 1618

There were bequests to bells in 1506 and 1508[2], and the 1552 Inventory records bells of 2 cwt, 3 cwt and 5 cwt.

The existing bell-frame appears to be of the same date as tower, and although the floor and foundations of the frame are very badly decayed (making measurement and recording of the structure a hazardous operation) enough of the original timber survives to establish the plan of the frame as it was constructed in the 16th century.

The frame was founded on a pair of wall plates, lying on off-sets along the east and west walls of the bell-chamber, with four tie-beams running east-west lap-dovetailed onto the foundation beams; dovetailed sockets for three of the tie-beams remain, but only the northernmost beam survives. The vertical corner-posts and end-posts to the bell-pits remain, most of them now hanging from the upper

1. C&C.
2. 1506, William Burman of Wheatacre, NCC Ryxe 450.
   1508, Stephen Stephenson of Wheatacre, NFK Shaw 70.

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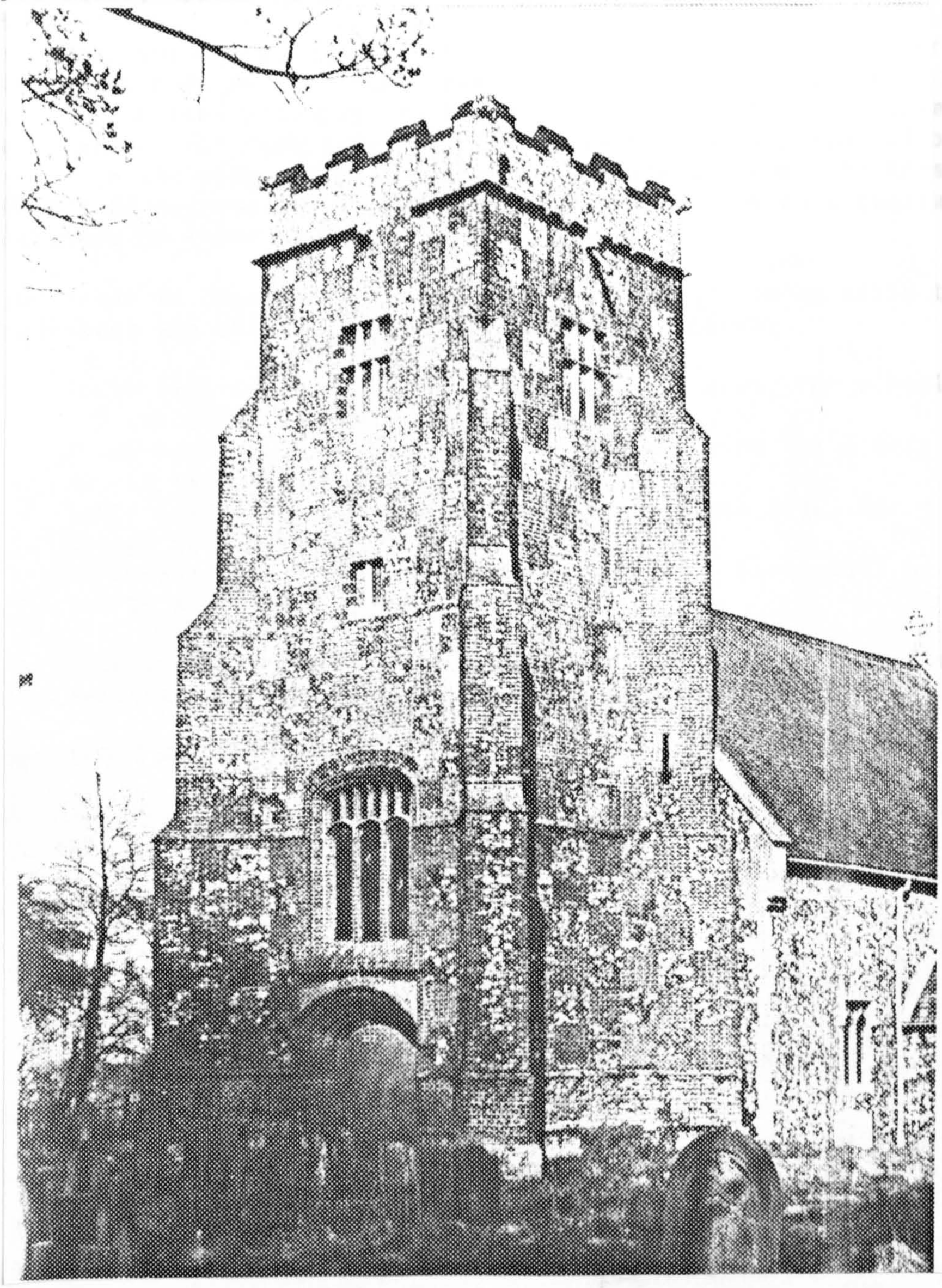
WHEATACRE

July 1979.



Brick tower, faced with chequer work of flint and brick, probably related to a bequest in 1522.

members of the frame, their lower ends having completely rotted away. Apart from the two newer sections (lettered AB and FL in the diagram[1]) which now support the single bell, the frame-heads appear to be in their original positions. The frame truss along the east wall of the tower seems to give the best impression of the original design. The four vertical posts of the truss, which were dog-legged across the tie-beams, appear to be in their original places, where they are tenoned into mortises in the wall-plate and retain the tenons which formerly entered mortises in the tie-beams. The two curved braces in the section BL of the truss seem to be original, but those in the section LC were probably rearranged when the steps to the tower roof were made. The remaining mortises suggest an arrangement of braces as shown in the diagram[2]. Mortises in the undersides of the frame-heads EH and DJ suggest that the braces in those trusses were similarly arranged to those described above.

The frame is designed for a ring of four bells[3], three bells to swing east-west and one to swing north-south, as follows:

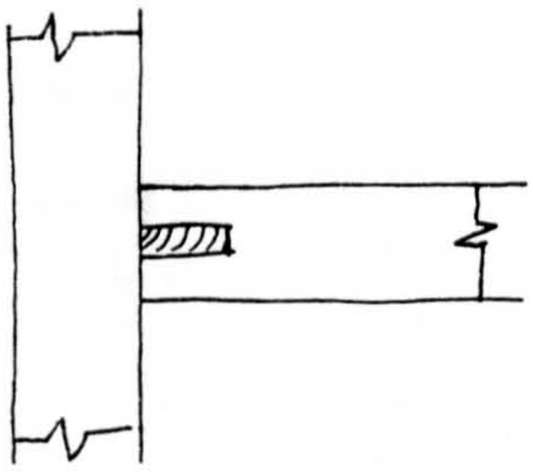
South-east pit 2 ft 5 1/2 inches (760 mm) wide, for a bell of 4 1/2 cwt to swing north-south.
South-west pit 2 ft 9 1/2 inches (850 mm) wide for a bell of 6 1/4 cwt to swing east-west.
West, centre, pit 3 ft 6 1/2 inches (1080 mm) wide, for a bell of 12 cwt to swing east-west.
North-west pit 3 ft 2 inches (970 mm) wide, for a bell of 8 1/2 cwt to swing east-west.

Mortises in the frame-heads for bell-bearings suggest that the west-centre pit of the frame has never been occupied.

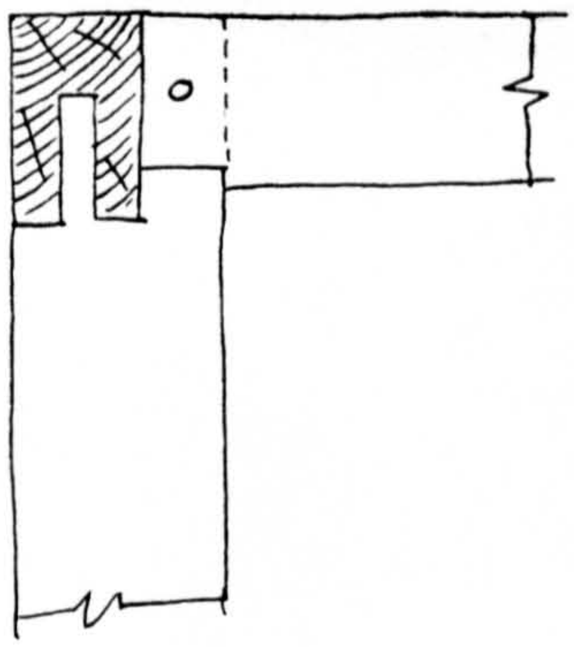
WHEATACRE

Diagram (not to scale) of the joint between frame-heads and vertical posts.

Plan



Elevation

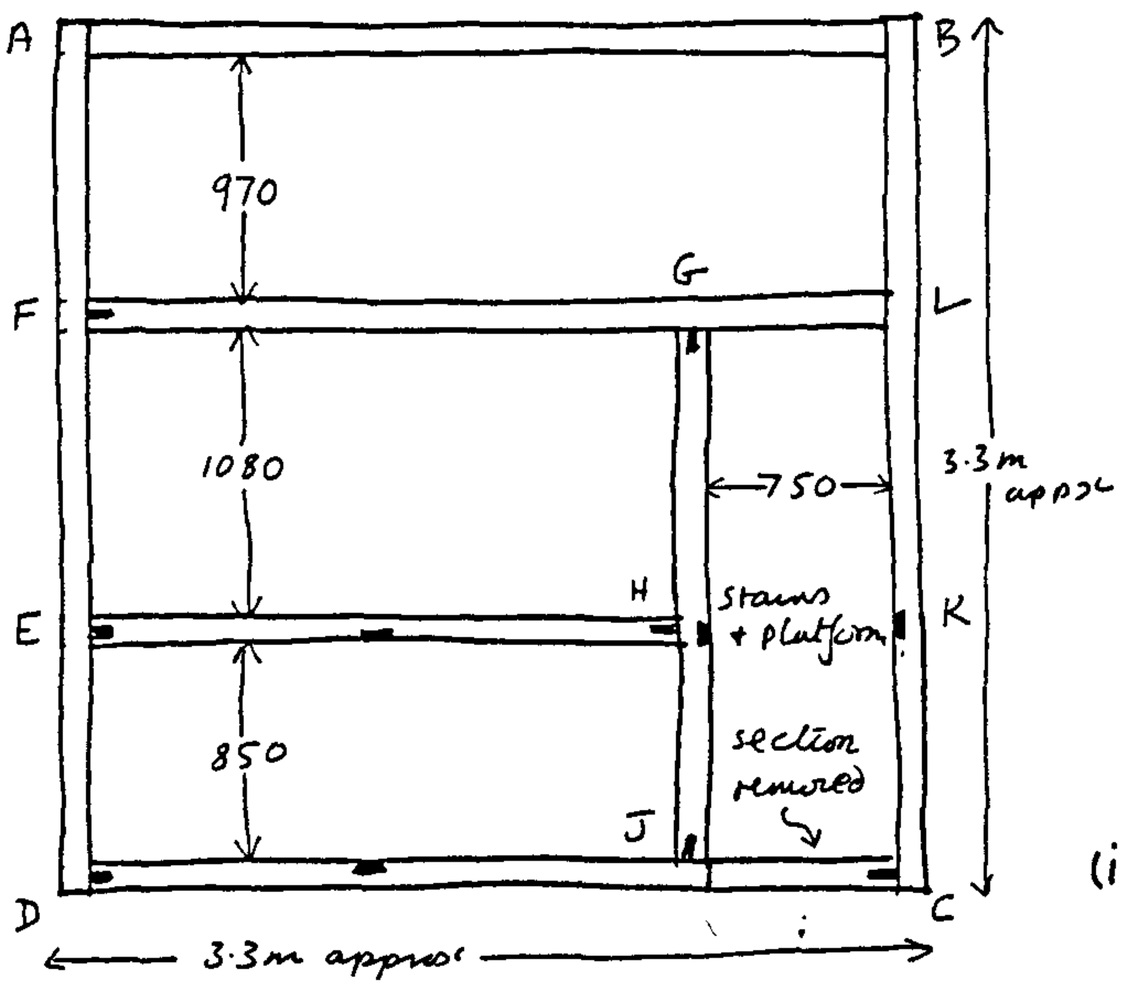


1. See diagram, p. 77.
2. See diagram, p. 77.
3. See Diagram, p. 77.

WHEATACRE

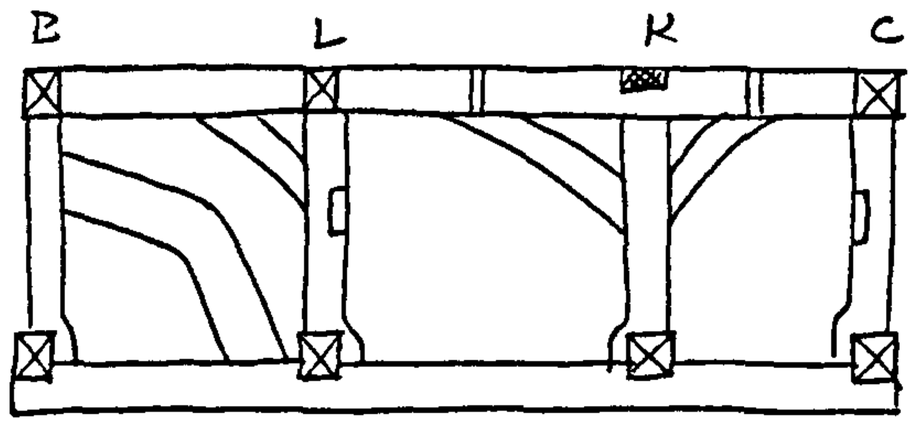
Bell-frame, April, 1979.
Drawing made from approximate measurements.

Plan of frame-heads

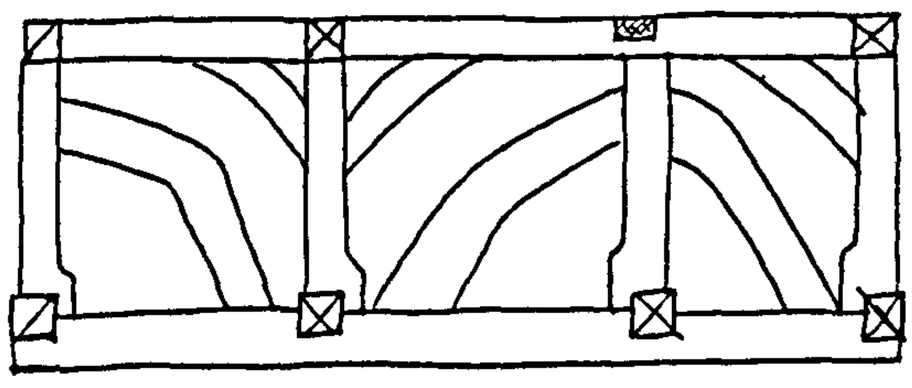


(i)

East end of frame from west.



Probable original design of east end of frame.



HUNDRED OF DEPWADE

ASHWELLTHORPE, All Saints. April 1978.

The square tower, at the west end of the unaisled nave, has massive diagonal buttresses, faced with knapped flint panelling and chequer-work, at the north-west and south-west corners. The two lower stages of the tower are constructed of flint rubble with limestone dressings, while the bell-chamber at the level of the second floor is constructed of flint, with liberal use of brick in the making of the soffits, jambs and voussoirs of the sound-windows. The ground-floor chamber has a two-light window with a 'dagger' motif in the head of 'Y' tracery, and the first-floor chamber is lighted by quatrefoil ventilators in the north, west and south walls: all details are of limestone, as are the 'Y' traceries of the sound-windows. The parapet of the tower is of chequered brick and flint flushwork.

No bequests to the fabric of the tower have been noted, but there is a contract, dated 21 May 1398[1], between Edmund de Thorpe of Ashwellthorpe and John Faudy, carpenter, of Salle for new roofs to the nave and chancel aisle: the details of the contract imply that a pre-existing aisled church had been pulled down and was then being replaced by the existing unaisled building[2]. The architectural details suggest that the lower part of the tower is of c. 1300 and that it had reached its present height by the time the church roof was completed[3]. The free use of brick in the upper stage of the tower, compared with similar use of brick in the nave, suggests that the tower was probably increased in height by the addition of the existing bell-chamber during the last quarter of the 14th century.

The bells are a derelict ring of five which have not been rung in full-circles within living memory[4]. The tenor bell has a diameter of 34 1/2 inches (876 mm) weighing approximately 7 3/4 cwt and sounding A.

1. THOMAS NEWMAN MADE MEE 1707 I COUCH

2. THOMAS NEWMAN MADE MEE 1707 MILES COOKE CW

3. THOMAS NEWMAN MADE MEE 1707

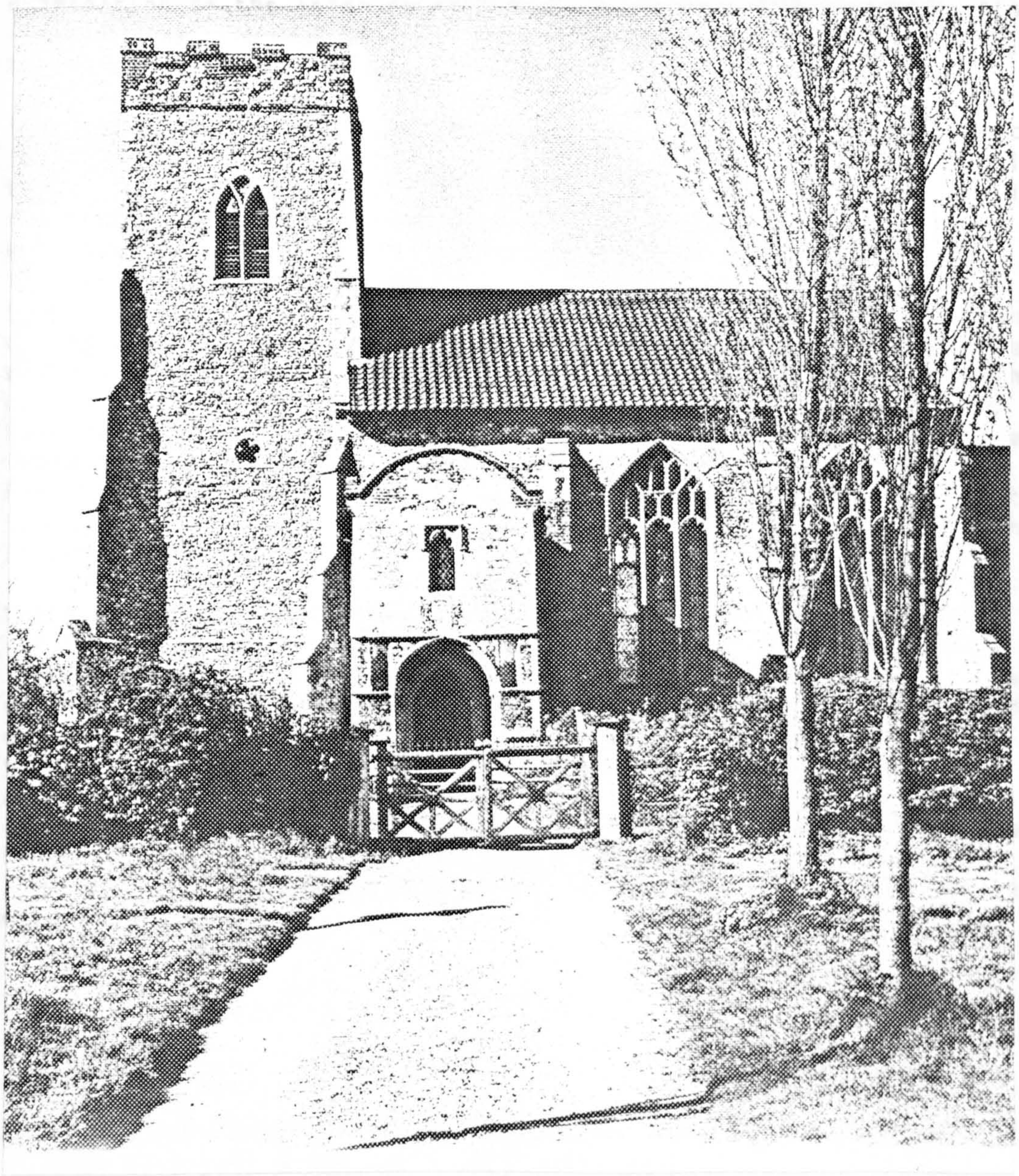
4. T. NEWMAN FECIT IAMES MOORE & IOHN HIGGING CW 1738

5. ANNO DOMINI 1612 WIB

1. NRO., Frere Mss., Hundred of Depwade, Ashwellthorpe bundle: transcript of the original (in the handwriting of Tom Martin of Palgrave as identified by Mr Paul Rutledge of the NRO).
2. The structure of the roofs to the nave and chancel aisle agree remarkably with the specification of 1398: the chancel appears to be a little later (bequest in 1415, C&C).
3. Even if the roof had been prepared well ahead of the work on the walls, the nave was complete by 1420 when there was a burial in the porch (C&C).
2. Information from Mr H. Duffield of Tharston whose father was a ringer in the area from c. 1890.

ASHWELLTHORPE

April 1978



Tower, probably of c. 1300; with bell-chamber and chequered parapet, probably of the late 14th century.

[illegible] foundations of bell-frame

There were bequests to a new bell in 1503[1], and specifically to a new tenor bell in 1504[2]; and the 1552 Inventory records bells of 4 cwt, 5 cwt, 6 cwt and 8 cwt. The existing tenor bell is by William Brend and his son, John Brend II, of Norwich.

The frame accomodates five bells and would appear to have done so since 1707: the tuning of the ring suggests that the bell of 1738[3] is a recasting of an earlier bell rather than an addition. A careful examination of the frame reveals that it is an extension and partial reconstruction of a frame which was originally designed for three bells, and is contemporary with the upper stage of the tower.

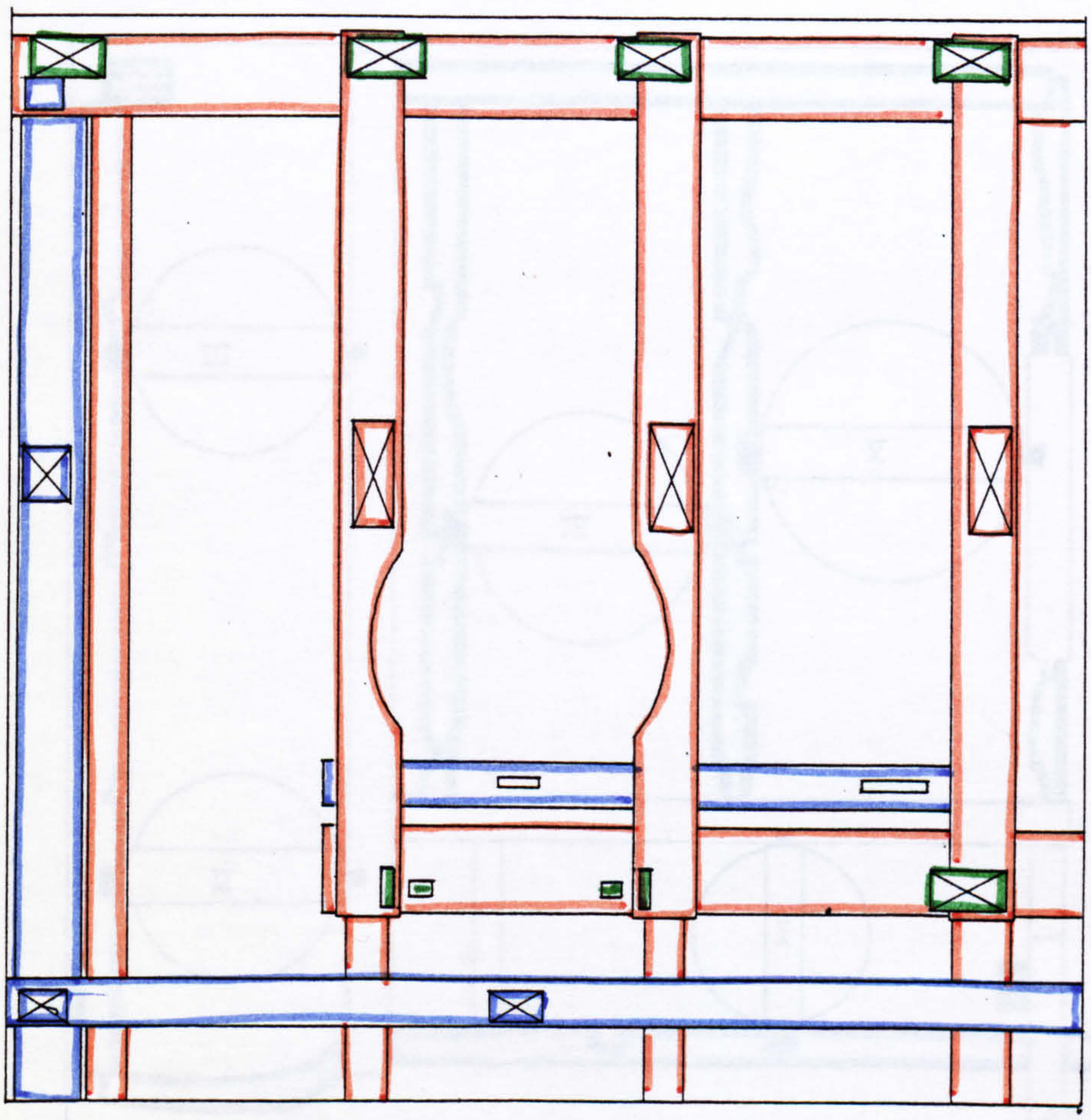
The foundation of the frame consisted of a set of four equally spaced joists running north-south which supported a pair of stout foundation beams, 11 3/4 inches wide (300 mm) by 7 inches deep (180 mm), running east-west: the north foundation beam lies close to the wall of the bell-chamber but the south foundation beam has its centre 27 1/2 inches (700 mm) from the south wall. Between the foundation beams there was a floor of oak boards which has now rotted away. All four of the lower joists and the two foundation beams are built into the masonry of the tower with no sign of disturbance (in contrast to the pair of large rough-hewn beams beneath the four floor joists which have clearly been inserted from beneath[4]). The bottom cills of the frame trusses consisted, in their original form, of cambered tie-beams[5] which were jointed, using lap-dovetail joints[6], to the two foundation beams. A large part of this foundation structure remains intact[7].

The three remaining trusses, whose association with the original foundations is confirmed by the symmetry of their design[8], have at their centres vertical king-posts, supported by curved braces[9]. The existence of a pair of short vertical struts on either side of, and close to, the king-posts suggests that in their original form, the trusses had short frame-heads, extending for a distance of approximately 27 1/2 inches (700 mm) on either side of the centre line of the king-posts: had the corner-posts, at the extreme ends of the trusses, been in existence they would have been a great deal more effective in preventing the movement of the frame-heads than the short struts.

1. 1503 John Sawer of Ashwellthorpe. NFK Davy 41. '... I bequeth to the makyng of a new belle vj s. viij d. ...'
2. 1504 Sarah Sawer of Ashwellthorpe NCC Ryxe 61. '... I bequeth to the tenor bell of Asshewellthorp iij s. iiij d. ...'
3. See above, p. 78.
4. The flintwork is much disturbed.
5. See diagram 3a, p. 84.
6. See diagram 8, p. 90.
7. See diagram 1, p. 81 - shaded brown.
8. The king-posts are midway between the frame foundation beams and are not on the centre line of the tower.
9. See diagram 3a, p. 84.

ASHWELLTHORPE

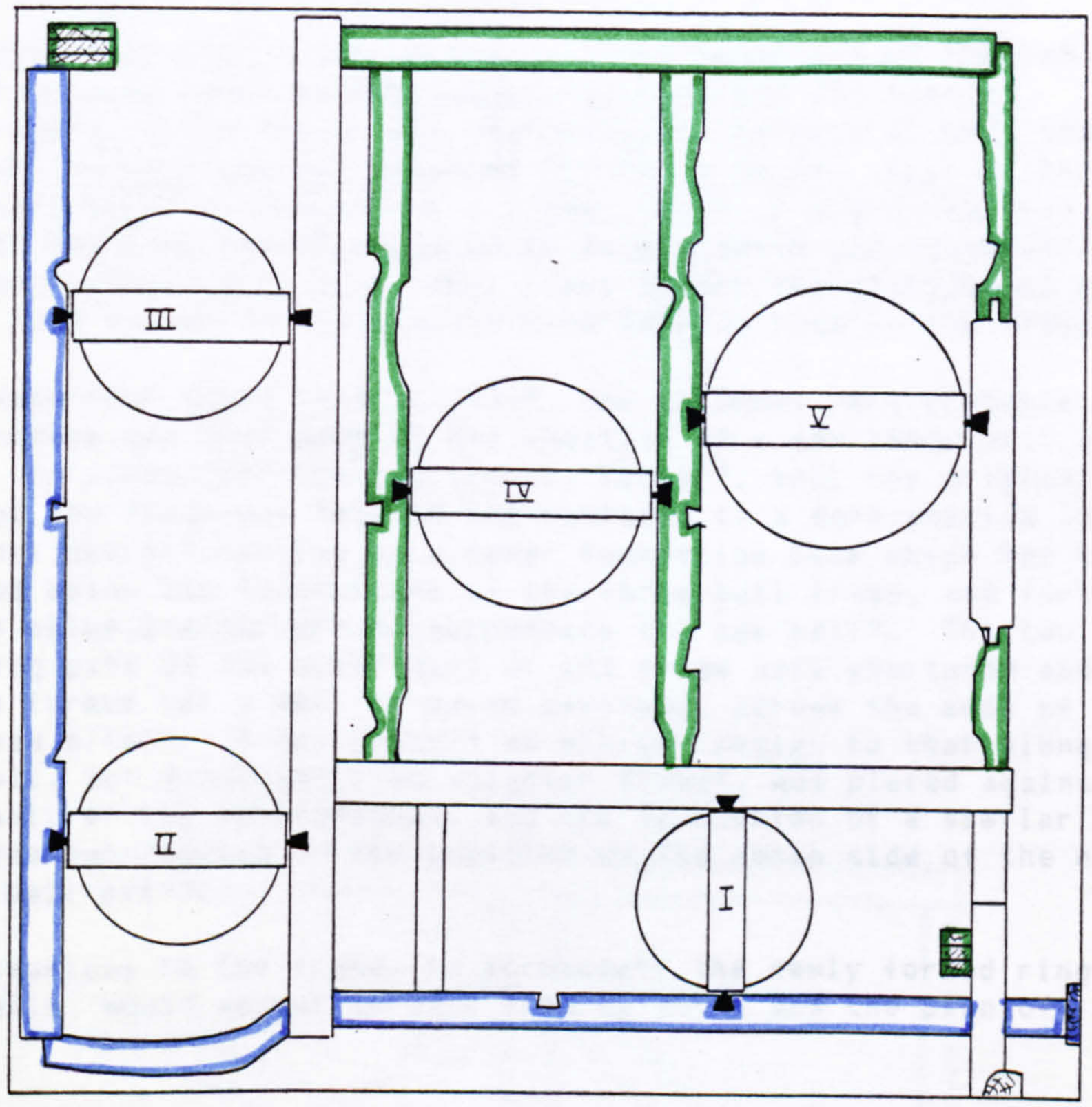
1. Plan of foundations of bell-frame, 1978.

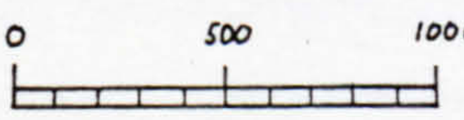


Brown shading: original late-14th-century timber.
Green shading: 15th-century timbers.
Blue shading: timber of c. 1504.

ASHWELLTHORPE

2. Plan of frame-heads, 1978.





Shading as on p. 81.

The original design of the frame, therefore, appears to have been for three bells to swing north-south in a frame with short frame-heads[1]. The pits would have accomodated bells as follows:

> East pit (still existing) 36 1/4 inches (929 mm) between the king-posts, grooved at 38 1/2 inches (980 mm) for a bell of 9 cwt.
> Centre pit (still existing) 34 1/2 inches (880 mm) between the king-posts, grooved at 37 1/2 inches (950 mm) for a bell of 8 cwt.
> West pit (west truss destroyed) of unknown dimensions[2].

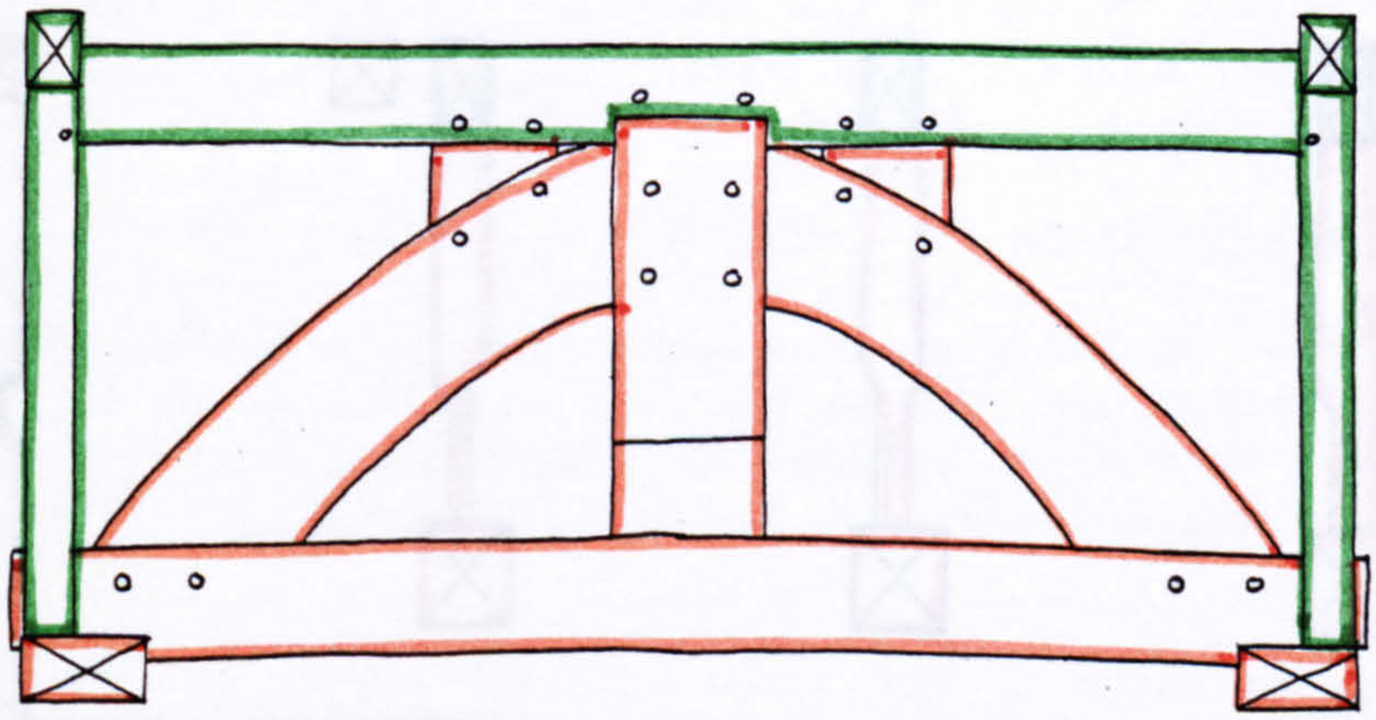
The position of the vacant mortises at the south end of the two central trusses confirms the suggestion that the addition of corner-posts to the frame, and end-posts to the central pit, took place while the frame was arranged for three bells. Five of the additional vertical posts[3] (of a former total of eight) survive, as do parts of the long top-cills parallel to the north and south walls. This modification must have taken place before the addition of a fourth bell for which there would have been no room in the frame[4].

There were four bells here in 1552[5], and it seems very probable that the increase had been made by the addition of a new tenor bell in c. 1504[6]. To accomodate the additional, larger[7], bell the original west truss of the frame was removed and replaced by a more massive truss of king-post design[8] resting on a newer foundation beam which has been inserted below the foundations of the three-bell frame, and further west to allow a wider pit to accomodate the new bell[9]. The two remaining pits of the older part of the frame were shortened and a new pit was formed for a bell to swing east-west across the ends of the shortened pits[10]. A new truss[11] of similar design to that along the west wall, but fashioned from slighter timber, was placed against the south wall of the bell-chamber, and the foundation of a similar truss (now missing) remains in the position of the north side of the newly formed bell-pit[12].

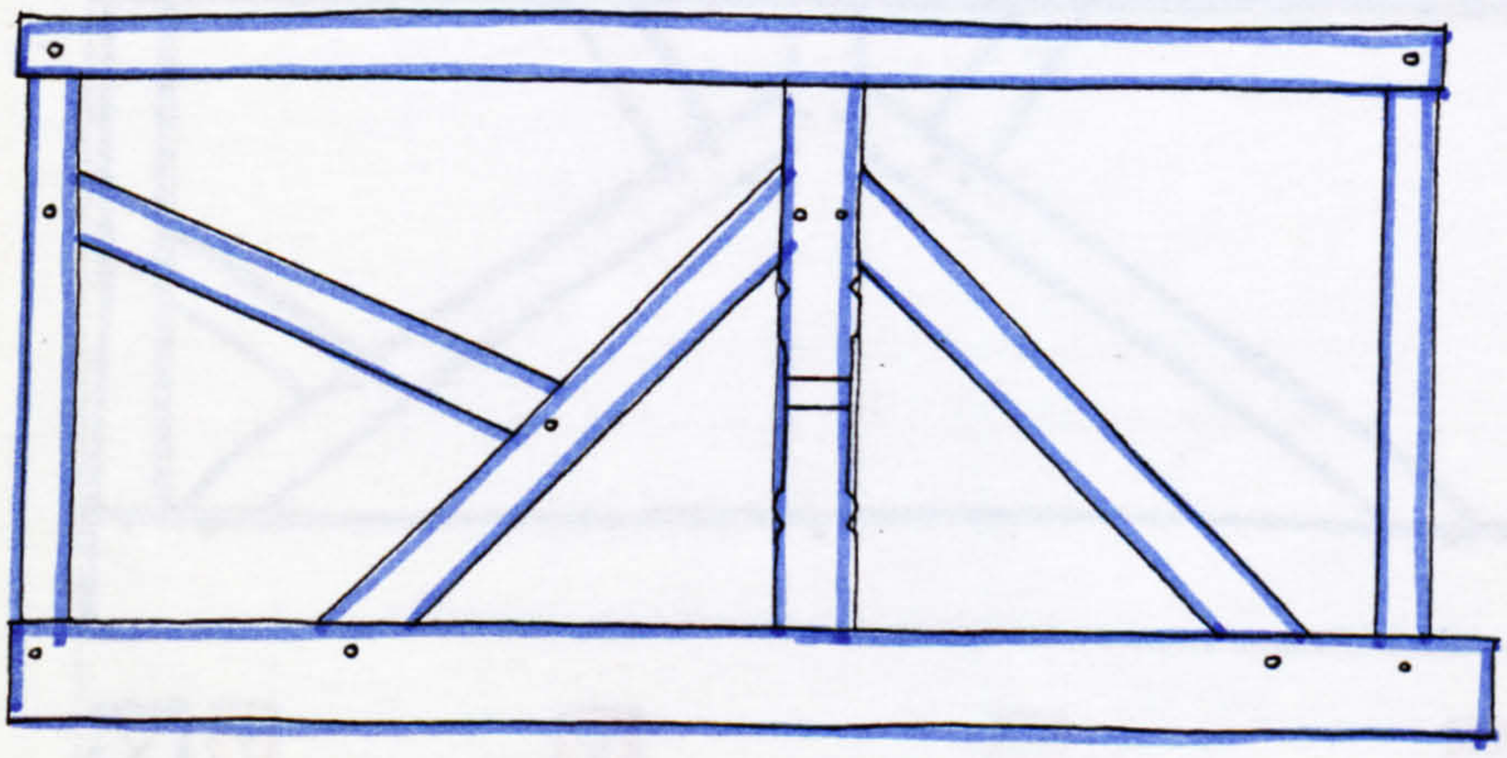
The extensions to the frame, to accomodate the newly formed ring of four bells, would appear to date from c. 1504. and the plan of

1. See diagram 5, p. 87.
2. See diagram 5, p. 87 and diagram 7, p. 89.
3. See diagrams 1, p. 81; 3, p. 84; 4, p. 86.
4. There would not be room for more than one bell in each pit.
5. See above, p. 80.
6. *Ibid.*
7. The largest bell is always called the tenor bell.
8. See diagram 3b, p. 84.
9. See diagrams 1, p. 81 and 2, p. 82 - shaded blue.
10. See diagram 7, p. 89.
11. See diagram 4b, p. 85.
12. See diagram 1, p. 81.

3 (a). Truss of bell-frame, 1978.



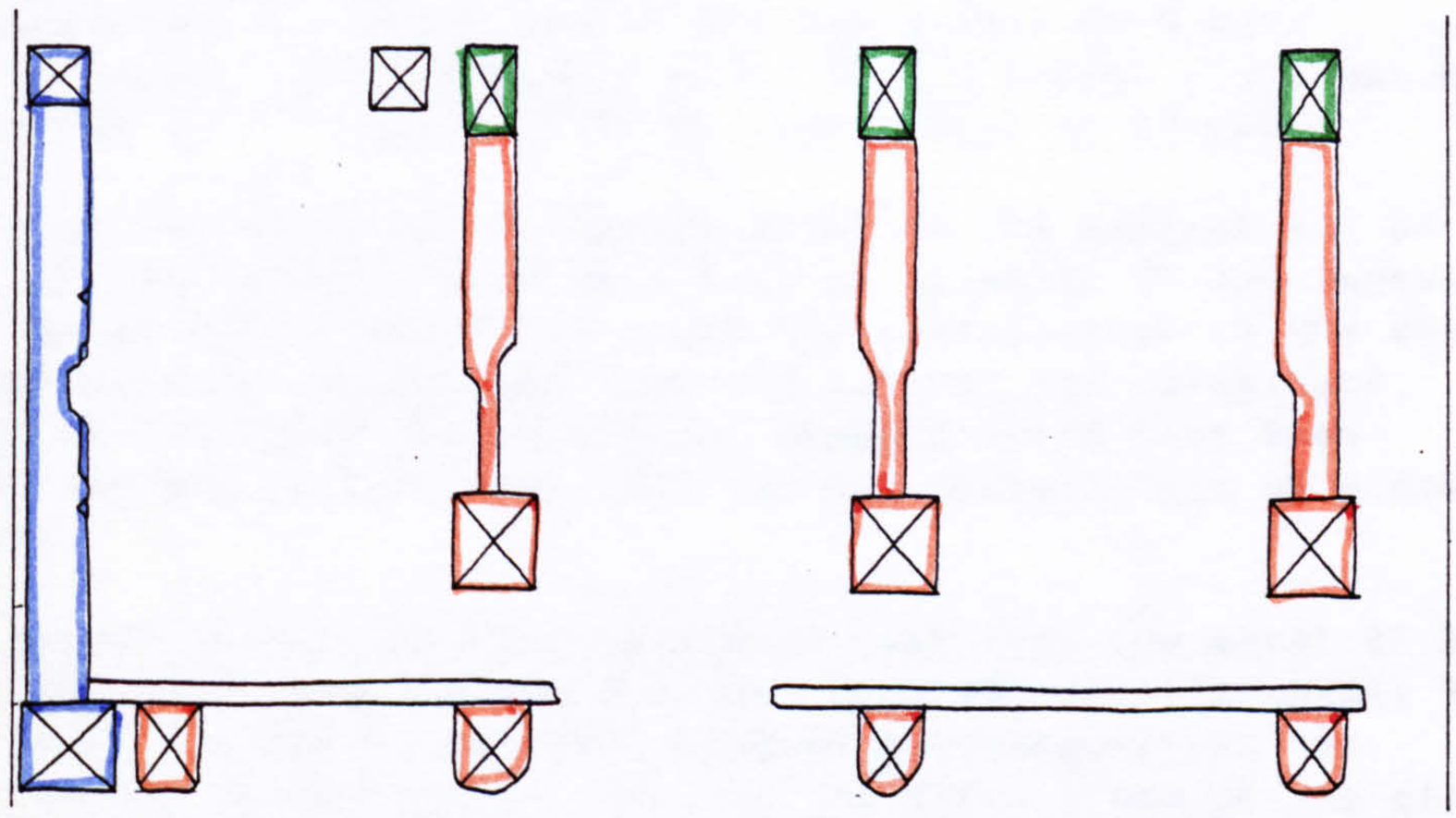
3 (b). Truss of bell-frame, 1978.



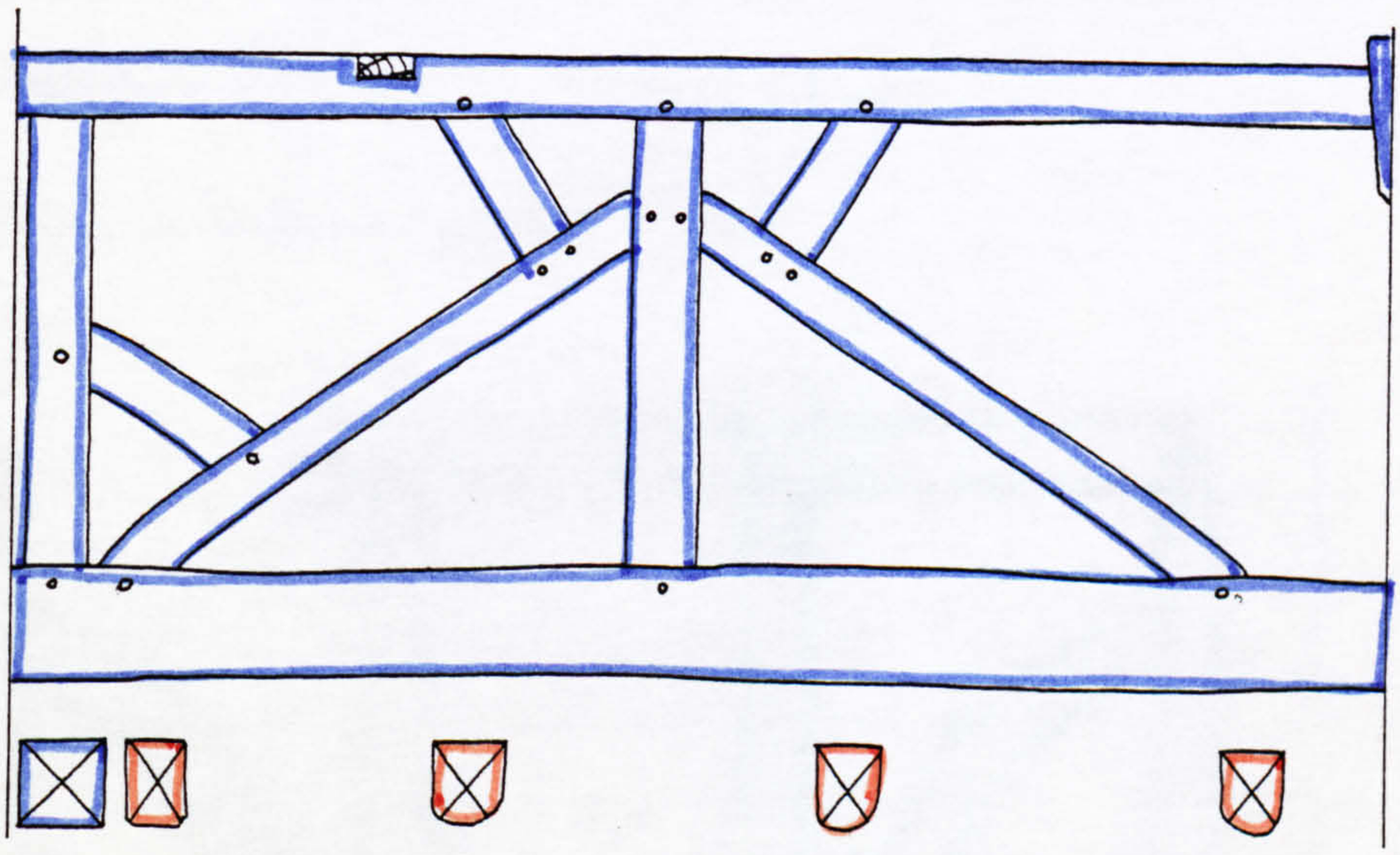
Scale and shading as p. 81.

ASHWELLTHORPE

4 (a). Section through bell-frame



4 (b). Section through bell-frame.



Scale and shading as p. 81.

the frame at that stage was as follows:

> Pit parallel to the south wall, approximately 25 1/2 inches (650 mm) wide for a bell of 3 cwt.
> Shortened form of former east pit for a bell of 9 cwt.
> Shortened form of former centre pit for a bell of 8 cwt.
> Wider pit parallel to the west wall, 39 3/4 inches (1010 mm) wide, grooved at 41 1/4 inches (1050 mm) for a bell of 12 cwt.

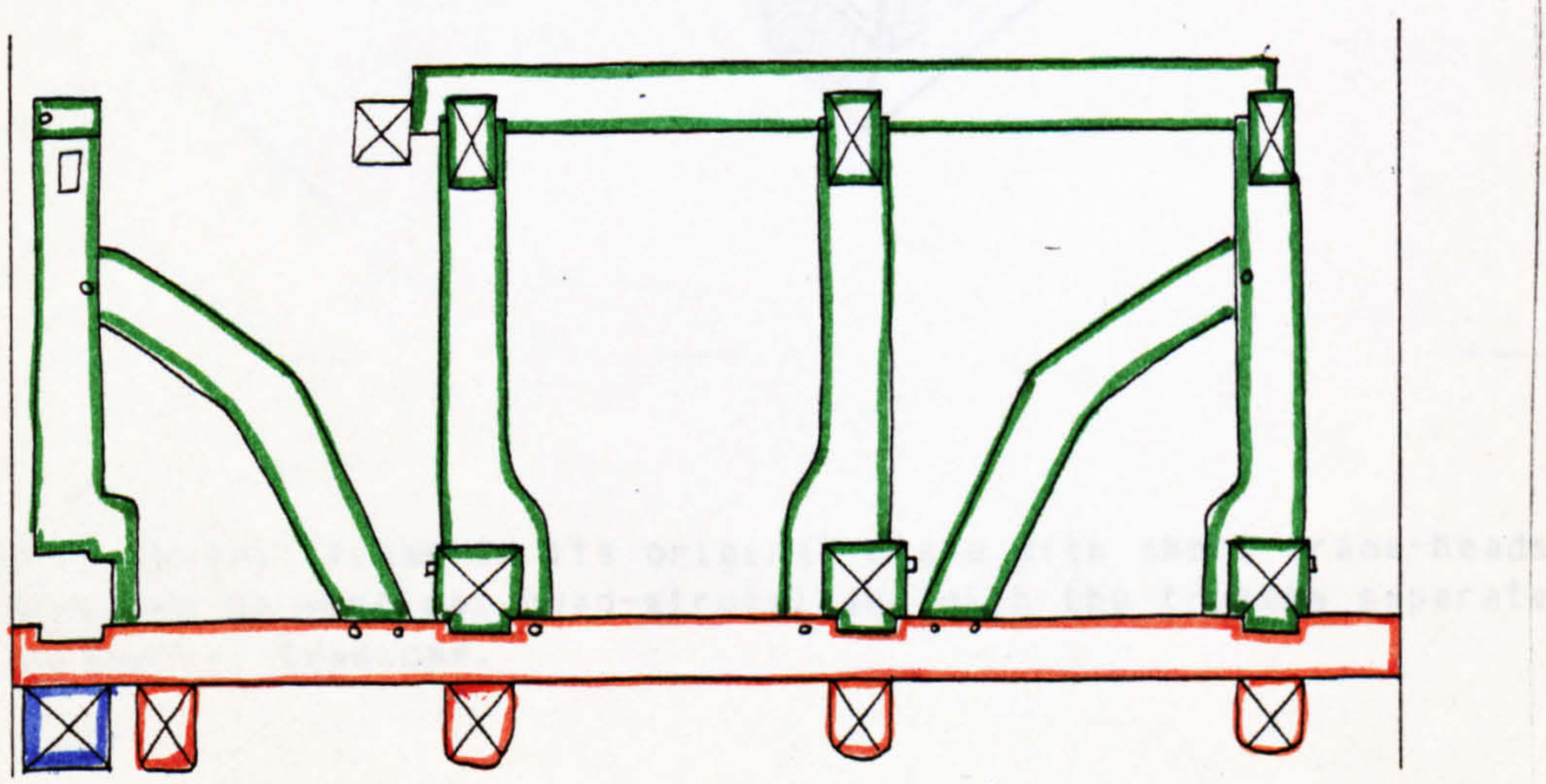
The paring of the sides of the bottom beams of the central pit of the frame is just sufficient to allow a bell of diameter 39 3/4 inches (1010 mm) to be hauled above the frame for installation in the newly formed west pit: it is unlikely that the paring, and consequent weakening, of two important structural members would have been undertaken for any reason other than for the installation of a new tenor bell[1].

The 1707 bells[2], which may well have been cast from the metal of the former 12 cwt bell thus leaving the next heaviest bell (probably that recast in 1612) as tenor, were accomodated by reorganising the top-cills of the frame, and by removing the north truss of the pit parallel to the south wall. The wide pit at the west end of the frame was narrowed by the insertion of a new top-cill and was long enough to accomodate the two smallest new bells.

The floor beneath has almost completely rotted away and the entire frame has been so much patched, and cut about in order to accomodate bells for which it was not originally designed, that the structure is no longer strong enough for the bells to be rung. There is a fine ladder, dated 1677, between the first floor and the bell-frame.

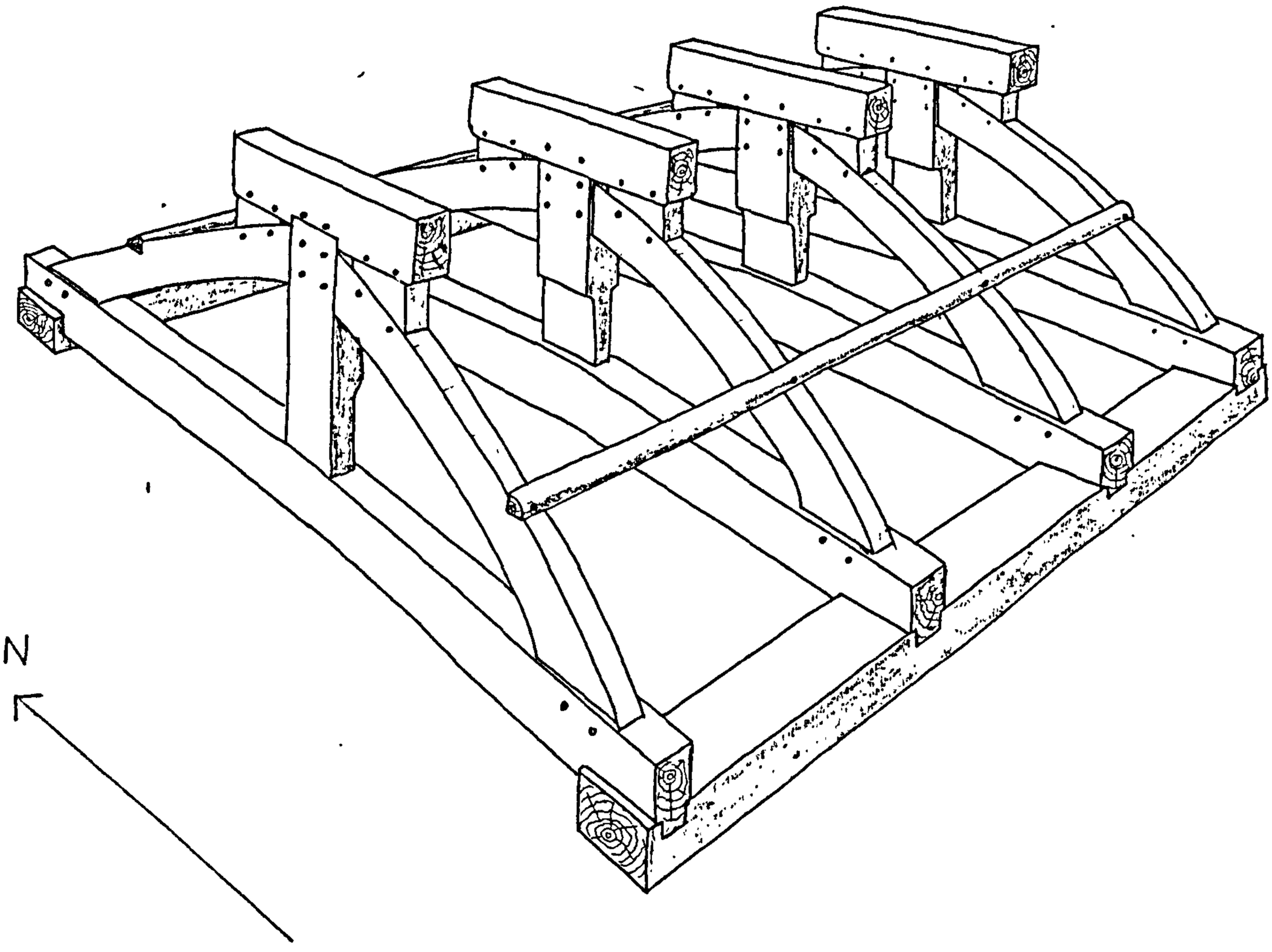
1. See diagram 1, p. 81. 2. See above, p. 78.

4(c) Section through bell-frame, 1978.



Scale and shading as on p. 81.

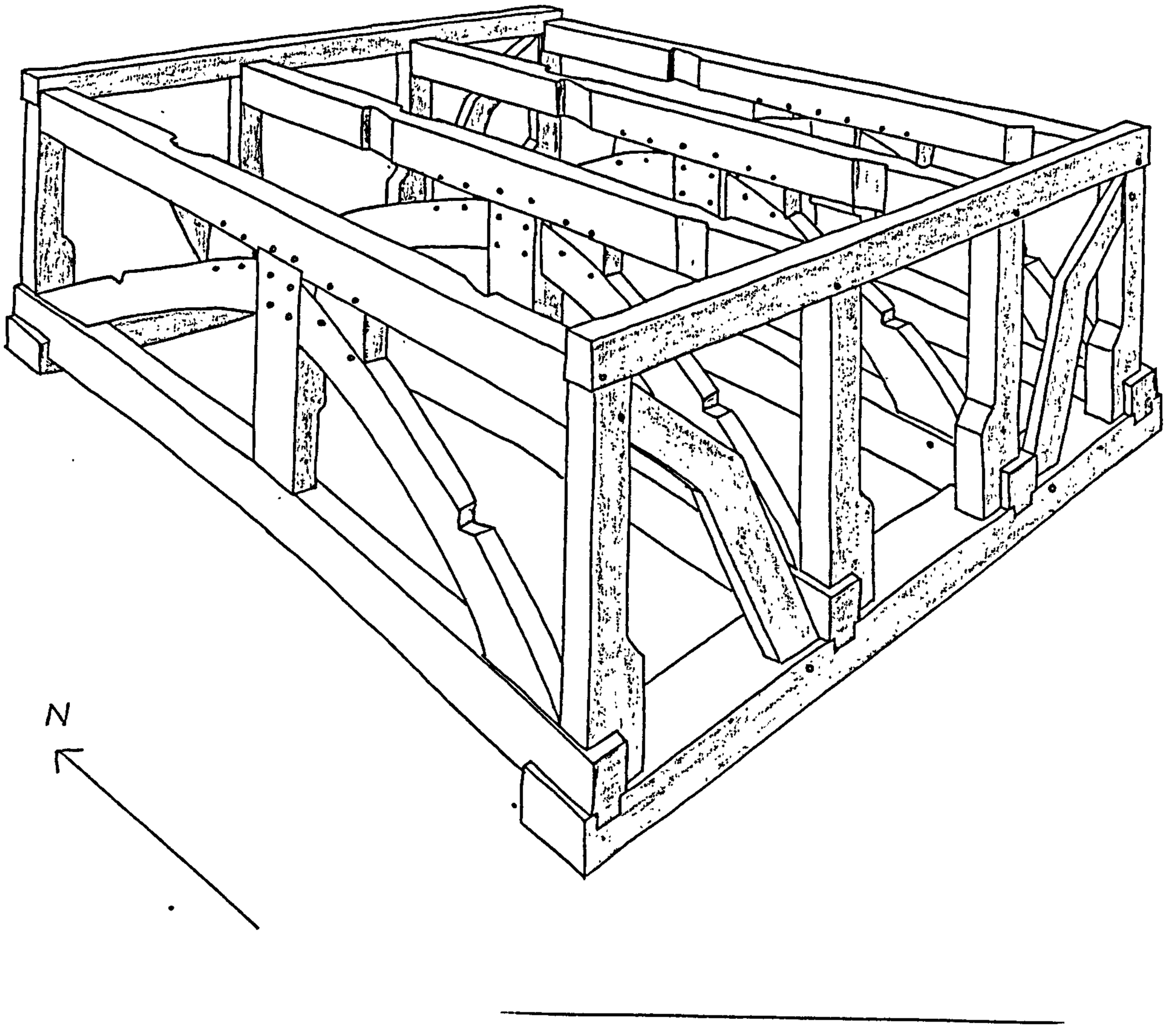
5. Sketch of bell-frame as originally installed in the late 14th century.



The three-bell frame in its original state with short frame-heads (supported by vertical head-struts) and with the trusses separated by a horizontal transome.

ASHWELLTHORPE

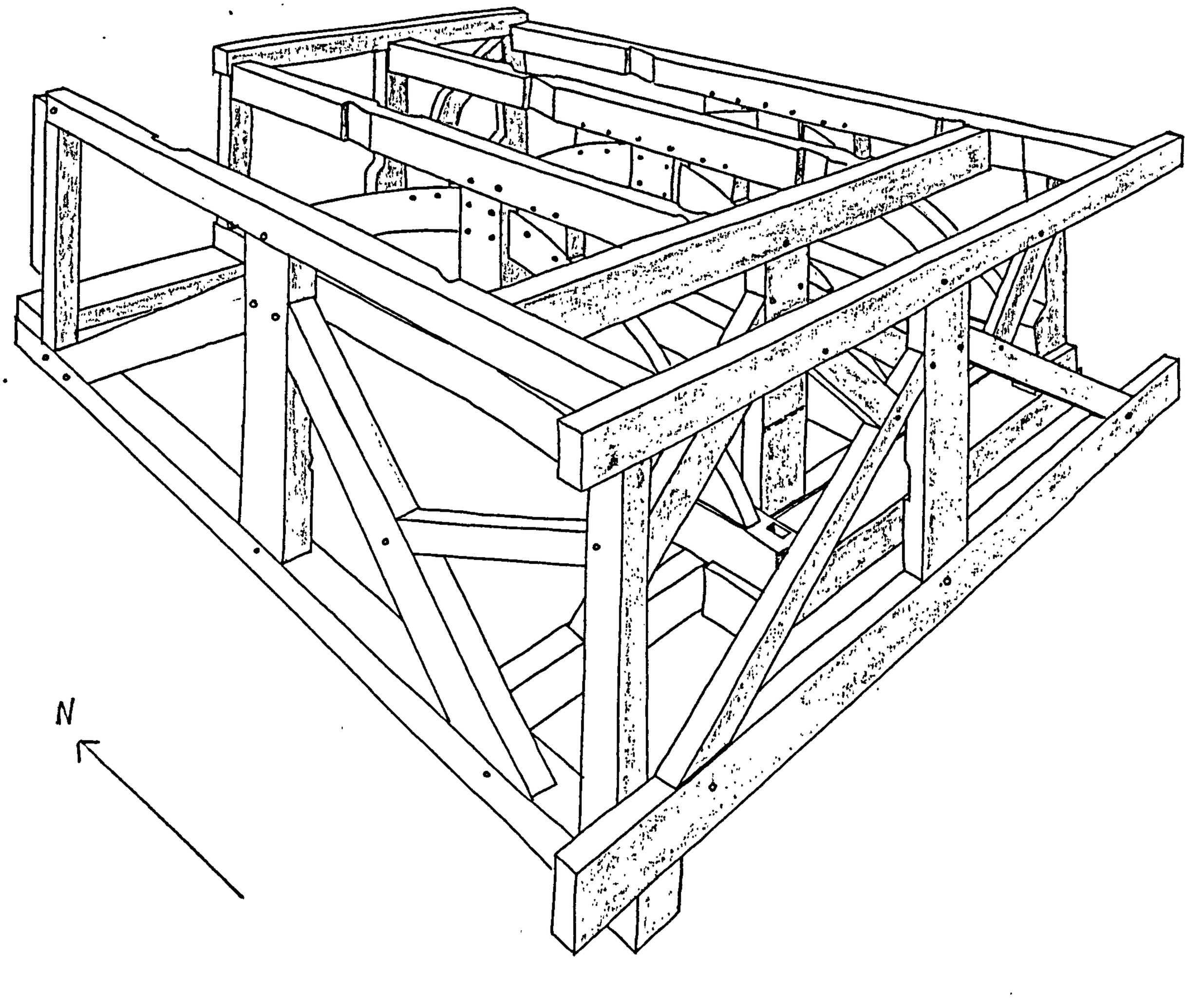
6. Sketch of bell-frame as strengthened in the 15th century.



Long frame-heads and corner-posts have been added to the older work: the vertical head-struts remain and the notches, where the transome was formerly fixed, can be seen.

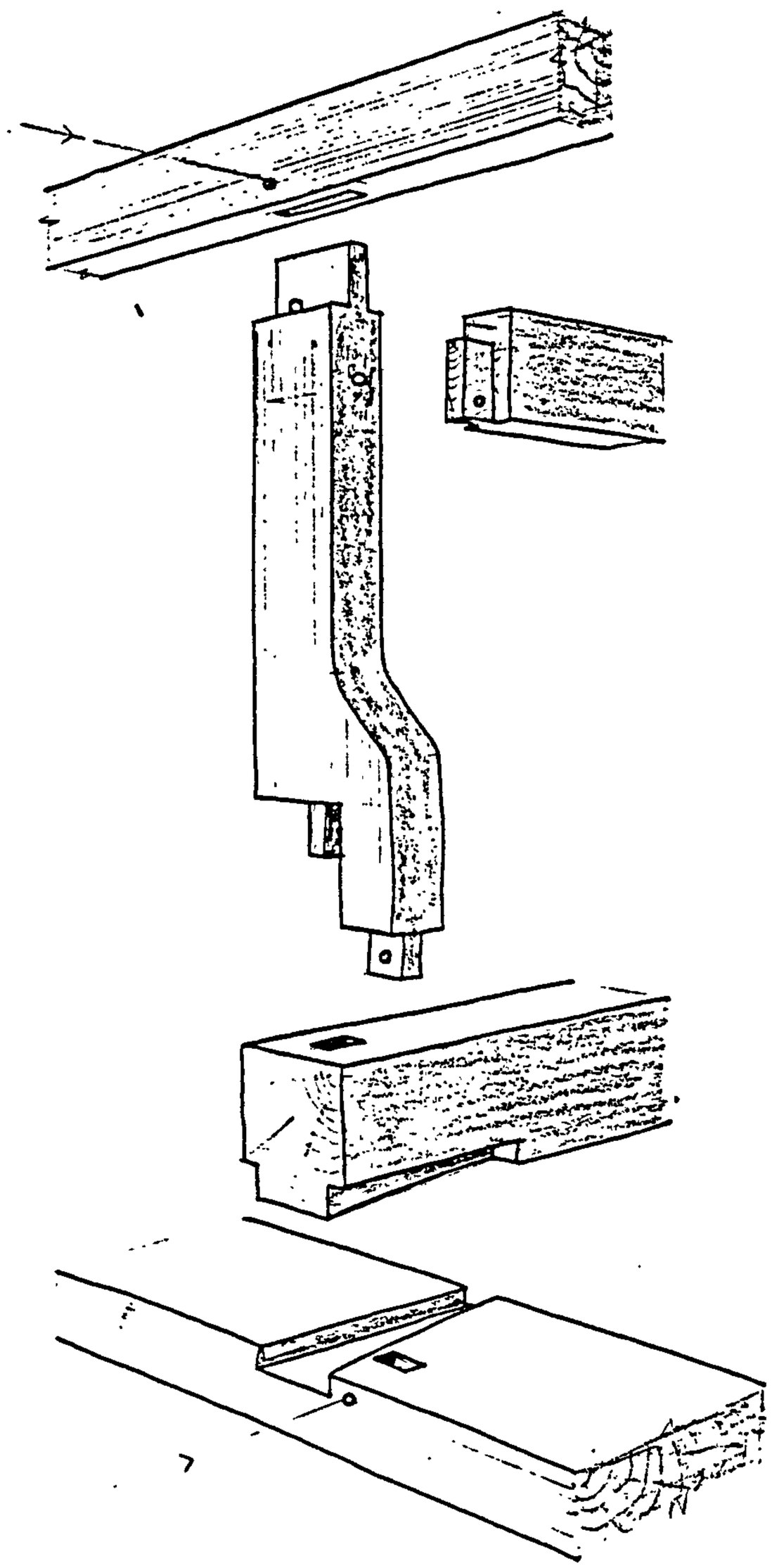
ASHWELLTHORPE

7. Sketch of bell-frame as adapted for four bells in c. 1505.



A new pit has been added across the south end of two of the bell-pits, and a wider pit for a large bell has been formed along the west side of the frame by constructing a new truss.

8. Diagram of joints in the corner-posts of the bell-frame.



Exploded view of the north-east end-post of the central pit of the bell-frame, showing the various types of joint employed.

ASLACTON, St Michael and All Angels. April 1978.

The round west tower, which is usually described as Anglo-Saxon[1], is constructed of uncoursed flint, and is of uniform appearance with the exception of the embattled, knapped-flint parapet. The ground-floor chamber has a wide arch with very simple imposts to the nave and a small cinquefoil-headed window opening to the west. At the level of the first-floor chamber there is blocked doorway through to the nave and a small rectangular opening to the west. The second-floor bell-chamber has four large sound-windows, each of two lights with triangular heads supported by a large limestone slab and separated by a single monolithic baluster.

The bells are a ring of five, tenor diameter 34 inches (865 mm) weighing approximately 7 3/4 cwt and sounding A flat.

1. ANNO DOMINI 1607 W
2. ANNO DOMINI 1607 W
3. ANNO DOMINI 1614 WB
4. ANNO DOMINI 1604 WB
5. ANNO DOMINI 1607 W

The 1552 Inventory records bells of 8 cwt, 10 cwt and 12 cwt, and the existing bells, by William Brend of Norwich, are the oldest ring of five or more bells by a single founder in Norfolk[2]. It would appear that the ring of five was brought together after 1614 from bells already in stock at the foundry, since the bells have been heavily tuned by means of a chisel: on No. 4 bell the '0' of the date appears to be superimposed on a '1'. The second bell became cracked in c. 1919 and the bells were considered unringable by 1925[3]. In 1978[4] the cracked bell was welded and the ringing fittings, installed by Day of Eye in 1889[5], were renovated, thus bringing the bells back into ringing order.

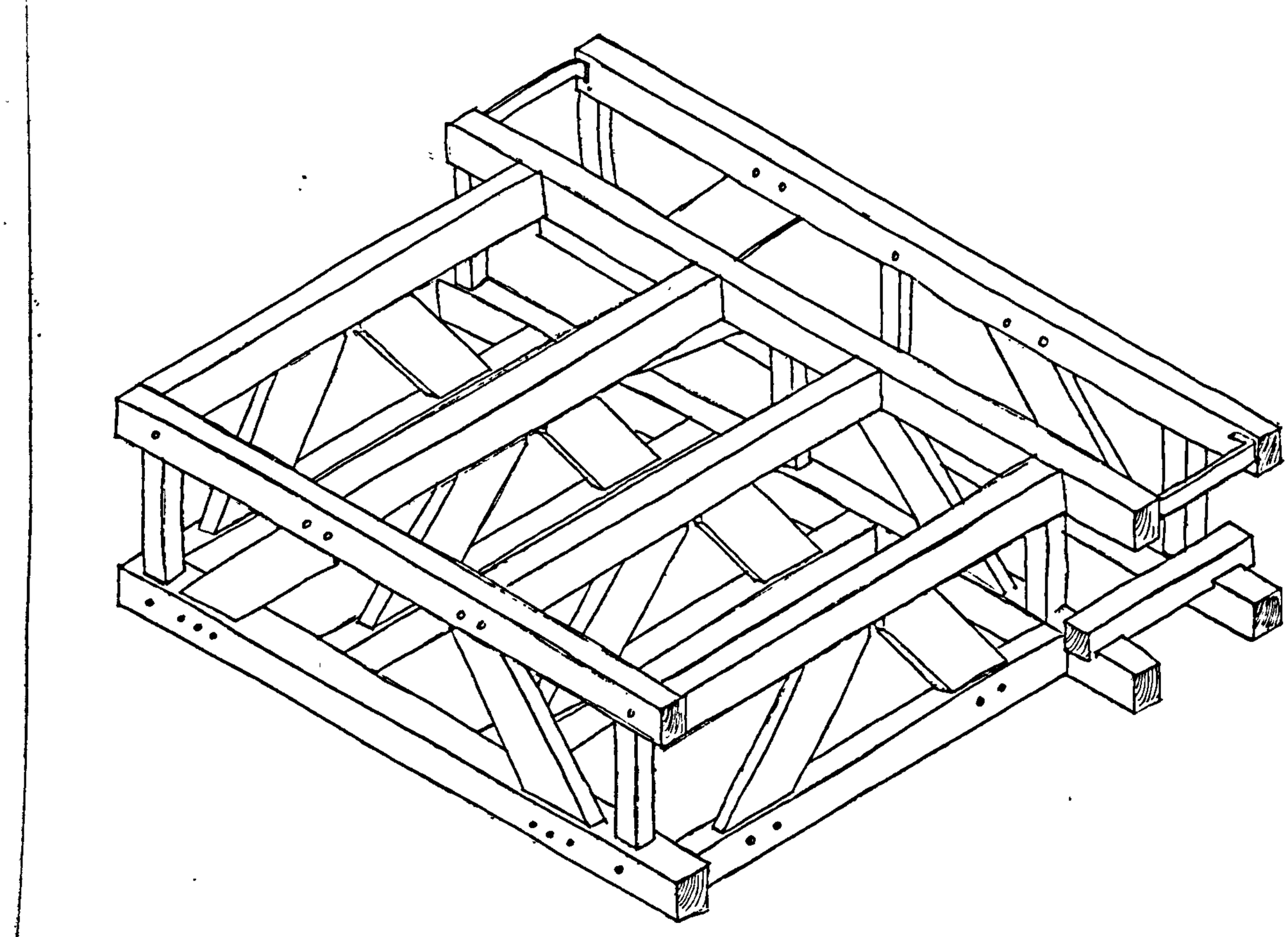
The bell-frame, which was described as 'very old' in a report by the bell-hangers in 1889[6], has every appearance of being contemporary with the bells. The five bell- pits are arranged for the three larger bells to swing side-by-side in an east-west direction, with the two smaller bells swinging mouth-to-mouth, at right-angles[7]. The foundation members, which are jointed together at a single level, are supported by a floor of stout oak boards, but are not jointed to it. Each of the trusses between the three larger bell-pits has a pair of inclined braces, while the long pit containing the two smaller bells

1. Pevsner, p. 77.
2. CBN., *passim*.
3. Information from Mr. W. C. Duffield, who rang there.
4. Under the writer's direction.
5. Date inscribed on the bearing-blocks.
6. Letter in the possession of the Rector, 1978.
7. See sketch, p. 92.

has trusses with vertical posts at the centres and inclined braces[1]. Comparison with the very similar bell-frames at Yelverton[1], Norwich St. Stephen[3] and Caston[4] suggests a 17th century date.

It appears that the installation at Aslacton is a rare survival of a complete ring of 17th century bells in their contemporary bell-frame.

ASLACTON



Sketch of bell-frame, 1978.

1. See sketch, above.
2. See note on Yelverton. p.239.
3. See note on Norwich St. Stephen, p. 384.
4. Caston bells, which were installed as a ring of six in 1756 (CBN., p. 114), hang in a frame which was designed for a heavier ring of five and is clearly much older than the bells.

BUNWELL, St Michael and All Angels. July 1978.

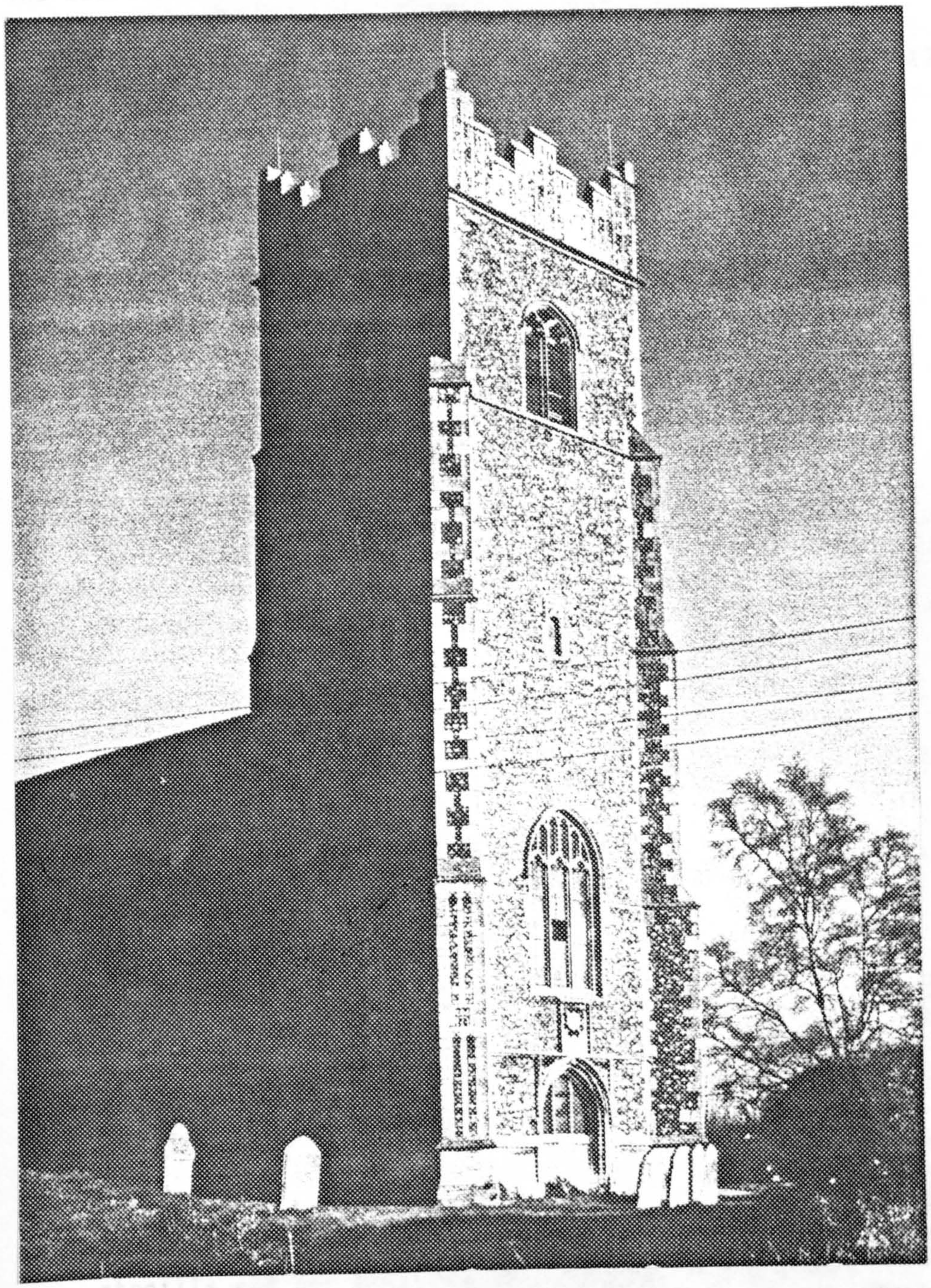
The square tower, which is one of the finest late Perpendicular towers in south Norfolk, is attached to the west end of an unusually wide nave (approximately 40 ft, 13 m). It has substantial diagonal buttresses at all four corners, those to the east being visible inside the church, and is constructed of flint rubble with a facing of knapped flint. With the exception of the decorative brick voussoirs above the west window, all the external details are of limestone and the tower is elegantly finished with flushwork panelling, and has monograms on the faces of the buttresses. There is a three-light west window above the west doorway, which breaks a deep base course of undecorated limestone. The first floor chamber has three finely traceried ventilators with square hood-moulds externally and set beneath internal arches of brick; and the four sound-windows are of two lights with four-centred arches, showing limestone externally but fully detailed in brick on the inside of the tower. The most dramatic feature of the tower is the stepped parapet whose intricate flushwork is seen to excellent advantage following recent re-pointing; the battlements are decorated with panelling, tracery, shields, initials, and geometric patterns.

Since the tower buttresses appear inside the church, and the moulding of the tower base-course continues on both sides of the nave (and is overbuilt by a later south porch[1]), it would appear that the tower and nave were under construction at the same time. It is tempting to compare the traceries of the nave windows with that in the west window of the tower, but the latter looks suspiciously new. There were bequests for new bells in 1466[2] and for leading the church in 1473[3] which suggest that by c. 1475 the nave was complete and the tower was high enough for the bells to be hung, if only temporarily[4]. Further work on the tower was under consideration in 1499[5], and a bequest in 1497[6] for a new bell strongly suggests that this was the beginning of a new campaign to build the bell-chamber. A bequest in 1505[7], leaving money to be realised over a period of five years, suggests that the work was still some way from completion in that year, and the latest bequest to work on the tower appears in 1508[8]. The parapet is probably roughly contemporary with the very similar parapet on the tower at Helmingham, Suffolk which was under consideration, although not begun, in 1538[9].

1. 1540. C&C.
2. 1466 Stephen Randolph of Bunwell. NCC Cobald 92.
3. C&C.
4. The bells may have been hung at the level of the first-floor chamber, as they are at present in the unfinished pre-Reformation towers at Salhouse, Stalham and Toftrees in Norfolk. In all three cases the towers are disproportionately short for the churches to which they are attached, and the present bell-chambers have small ventilators rather than the more usual large sound-windows.
5. C&C.
6. 1497 John Bukke of Bunwell. NCC Typpes 140.
7. C&C.
8. C&C.
9. 1538 John Withe of Helmingham. NCC Mingay 186.

BUNWELL

April, 1980.



Tower probably completed to the level of the nave roof by c. 1475, incresed in height by c. 1510, and completed with a parapet in c. 1540.

The tower arch to the nave is wide and tall, and there is a contemporary ringers' gallery with a niche and an adjacent corbel in the south wall which suggest that there might have been an altar, or at least an image with a light before it, in this position[1].

The bells are a ring of six, tenor diameter 36 inches (915 mm), weighing approximately 8 1/2 cwt and sounding A.

1. IAMES BALDWIN RECTOR IAMES BALWIN IUNER IOHN BLAKE 1732 TN

2. I BLAKE HENRY PLEASANT MADE ME 1699

3. IOHN BLAKE HENRY PLEASANT MADE ME 1699

4. T NEWMAN FECIT STEPHEN CANN SAMVEL TVBBY CW 1732

5. THO: NEWMAN MADE ME IOHN WALPOLE THOMAS BLAKE 1732

6. RECAST BY JOHN WARNER & SONS LONDON 1884
   THE REVD. H. DAWSON RECTOR
   WILLM. BURTON)
   WILLM. DORDERY) CHURCHWARDENS
   HUNG BY G. DAY & SON, EYE.

The 1552 Inventory records bells of 7 cwt, 10 cwt and 11 cwt, and bequests to the bells in 1466 and 1497 have already been noted[2]. The curious spellings on 1 are reproduced as they appear on the bell.

1. The framing of the gallery is massive and the timbers appear to be old. A similarly placed niche has been noted in the ringers' gallery at Norwich, St George, Colegate, and chapels in church towers are not unknown. Two bequests to a chapel of 'Our Lady in the Steeple' are noted in wills relating to St Andrew's Church, Norwich (1473 Robert Hooker NCC Paynot 99, and 1483 Elizabeth Sayer NCC A Caston 181); and there is evidence for lights and images in the tower at Hassingham, where John Treman (NCC Popy 31) willed 'Also I bequethe to the ymage of our lady standyng in the stepille end for to close her in and to kepe light xij d.'. The association of the west gallery at Cawston church, Norfolk, with the Plough Gild of Sygate is patent in the inscription on the gallery front, and it is suggested by E. F. W. Ames in his *Notes on the Church of St. Agnes, Cawston* (Cawston, 1953) that the Plough Rood, with its attendant lights, was set up on the gallery. See p. 337.
2. See p. 93, notes 2 and 6.

L'Estrange, who notes the inscriptions very inaccurately[1], gives the inscription on the former tenor bell as:

> 'JOHN BREND MADE ME 1612',

and adds a question mark after the date, presumably to imply that neither John Brend I nor John Brend II was active in 1612. The churchwardens accounts[2] record the recasting of bells in 1655, when John Brend II was active, and it is likely that L'Estrange read the date incorrectly[3]. L'Estrange was also perplexed by a terrier which records a ring of five bells in 1740[4], but which is no longer among the parish documents. The earliest terrier now in the parish chest is dated 1747 and records

> 'six musical bells with their frame and all things as they hang where of the first weigh ( )[5], the second weigh 400 and 1/2, the third weigh about 400; the fourth weigh about 600 lbs, the fifth weigh about 800 and the tenor weigh about 1000'.

It is very curious that the weight of the treble bell, which cannot have been imported from elsewhere since the names on it are those of Bunwell people, is not given in the terrier of 1747. The date on the bell is the same as that of a letter from the Rev. James Baldwin, Rector of Bunwell[6] to the Rev. Francis Blomefield, in which he complains as follows:

> 'thence I am staid for a mile another way by our Townsmen and their Bellfounder, so must conclude without other method than general service to all'.

The bells hang in a metal frame which dates from the restoration of 1884[7].

1. CBN., p. 109.
2. Seen at the Church in 1980.
3. See his version of bells 1 and 2; CBN., p. 109.
4. *Ibid.*
5. No weight is given in the document, but a space is left.
6. NRO., Le Neve Letters MC1/1.
7. Day.

CARLETON RODE, All Saints. July 1979.

The square west tower is massively constructed of flint with dressings of limestone, but it is only just higher than the pitch of the nave roof. There is a pair of buttresses at right-angles at each of the south-west and north-west corners, and single buttresses at right-angles to the tower walls at the north-east and south-east corners: the buttresses are massive, and reach to the level of the parapet. The west window is of two lights, with flowing tracery which suggests an early 14th-century date. The three sound-windows are finished externally with three-centred brick heads, brick jambs and cills, but their internal details are of limestone. The parapet is of undecorated limestone, with brick-coped battlements and small limestone pinnacles with arched panels. Inside the tower, much brick is visible in the upper parts of the first-floor bell-chamber.

Blomefield[1] records an inscription referring to a restoration of the church and tower in 1717, and the churchwardens' accounts record extensive repairs in that year[2], when a Mr. Kerrison, bricklayer of East Carleton, was paid the sum of £34-01-06 for work and materials which left the tower strong enough for bell-ringing to continue. John Stephens recast a bell in 1725[3], and there are regular payments to the ringers until Easter 1755[4]. The collapse of a large part of the steeple in April 1755 is noted in a faculty petition[5] which sought approval to sell four of the five bells and apply the proceeds to amend the damage sustained by the nave and south aisle of the church. The four bells were duly sold to a Mr. Ward for £132-09-00 in 1755, and were carted to Norwich[6].

The single bell has a diameter of 34 1/2 inches (880 mm), weighing approximately 7 1/2 cwt.

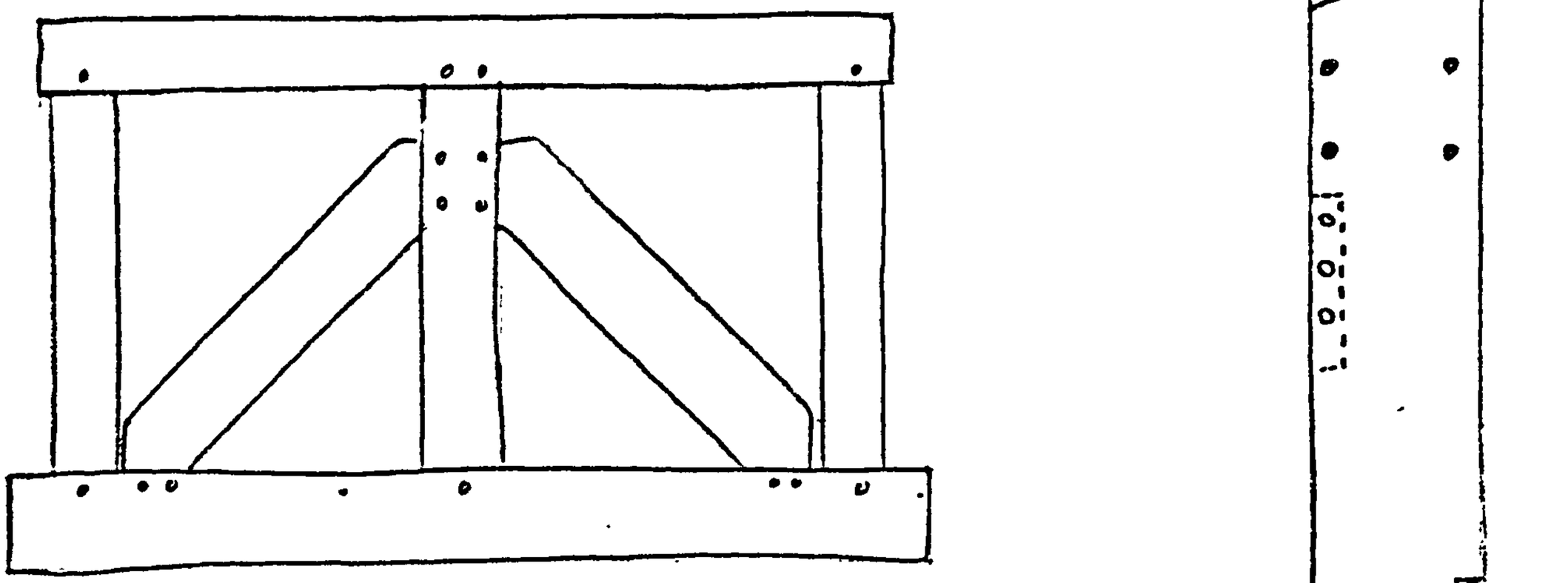
1. IOHN DRAPER MADE ME 1634.

1. Blomefield V, 125.
2. Churchwardens' accounts. NRO. PD 254/64.
3. *Ibid.*
4. *Ibid.*
5. NRO., NDR., FCB. 3, fo. 63.
6. Churchwardens' accounts, see note 2.

There were a number of bequests to the bells between 1492 and 1533[1], and the 1552 Inventory records bells of 10 cwt, 12 cwt, 13 cwt and 16 cwt. The bell is hung for full-circle ringing in a frame which is reconstructed from the timbers of an older frame and, since the frame is designed for only one bell, the most probable date is that of the restoration of the tower in c. 1758.

The two trusses of the bell-frame have bottom cills which rest on the first floor of the tower, with king-posts, straight braces and end-posts supporting long frame-heads[2]. An examination of the east king-post shows a socket for a bell-bearing, a clearance groove to allow a bell to swing 'up', and a vacant mortise for a supporting timber: it appears that the earlier frame truss did not have a king-post beneath the bearing.

CARLETON RODE.



Sketch of details of bell-frame.

1. 1492 John Machon, NCC Awbreye 120.
   1502 Richard Cocke NCC Popy 115.
   1502 Robert Edward, NCC Popy 308.
   1508 Richard Brighteve, NCC Spyltimber 241.
   1510 Alice Hunt, NCC Spyltimber 304.
   1517 Thomas Hunt, NCC Gylys 31
   1533 Robert Brett, NCC Platfoote 168.
2. See diagram, above.

FORNCETT ST. MARY, St Mary the Virgin. July 1981.

The square, unbuttressed, west tower was restored shortly after 1869[1], when the parapet and traceries of the four sound-windows were repaired, and a completely new west window to the ground-floor chamber was constructed.

The tower is built of small irregularly-set flints, some of them broken to show dark fracture planes, but not presenting the appearance of knapped flint: there is also a liberal mixture of irregularly placed brick rubble, and the quoins of the tower are of limestone. The contrast between the flintwork of the nave west wall and the tower, together with the lack of bonding at the junction, shows that the tower was butted up against the nave west wall, which supports the east face of the tower. The archway to the nave, whose details are concealed beneath a coating of plaster, appears to have been cut through the older west wall.

Externally the tower shows two phases of construction. The lower section, of about 25 ft (8 m), to a point about half way between the levels of the first and second floors, is of a very much lighter colour than the upper stage of about 30 ft (10 m); this difference in colour and texture is due to the use of a higher proportion of broken flints in the upper part. The parapet shows knapped flint and limestone flushwork on the north and west faces, but is of plain knapped flint on the two sides facing away from the village. The external details of the four sound-windows, which are of two lights with simple traceries beneath four-centred arches, are of limestone.

Inside the tower considerable use is made of brick, especially in the internal details of the sound-windows. The first-floor chamber, which is reached by a ladder, has a small window opening to the west, whose internal opening has soffit, jambs and voussoirs of brick, while the external details are of limestone. At the same level, similarly sized openings in the north and south walls have been blocked, leaving vestigial brick details outside the tower and clearly visible remains inside. There is a doorway through the east wall of the tower at the level of the apex of the nave roof.

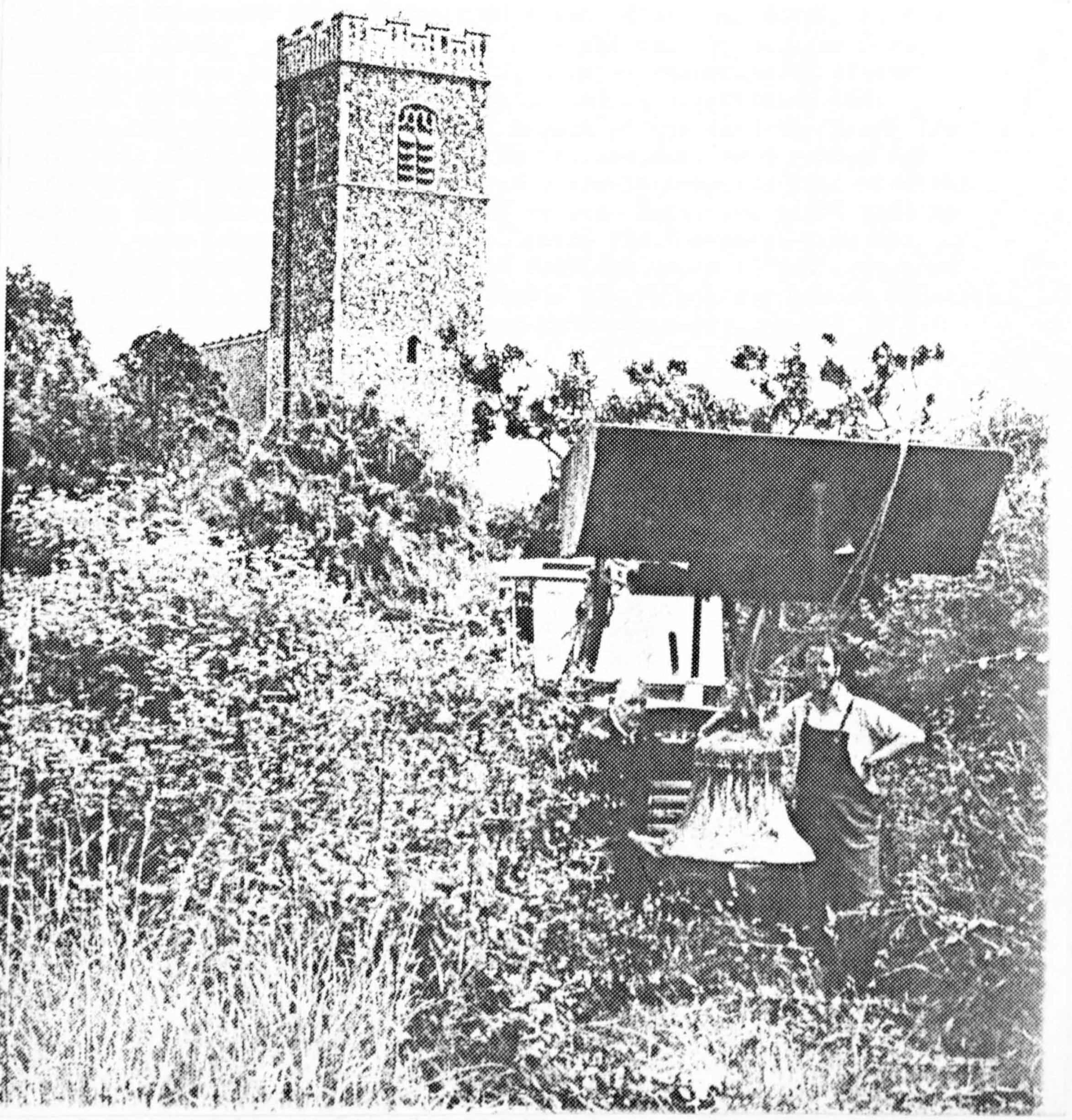
It would appear that the first phase of building saw the tower complete to the level of the apex of the nave roof, with a temporary bell-chamber having openings to the north, west and south. When the final stage was added to the tower it would appear that two of the earlier openings at the level of the first-floor chamber were blocked. Notwithstanding the slight differences in detail, the similarity in design of both stages of the tower suggests that the two phases of building were not widely separated in date.

A bequest to the tower in 1432[2] could refer to either phase of the work, and a conjectural date of c. 1450 for the completion of the tower is suggested.

1. See NRO., PD 278/7.
2. C&C.

FORNCETT ST. MARY.

June, 1981.



Square tower, probably completed in c. 1450

The bells were removed from the tower on 3 July, 1981[1], leaving the bell-frame intact. They were a derelict ring of three, tenor diameter 30 1/2 inches (775 mm), weighing approximately 6 cwt and sounding C.

1. T NEWMAN OF NORWICH MADE MEE 1707 MILES COOKE CW.

2. ANNO DOMINI 1603

3. + In Multis Annis * Resonet Campana Ioh'is

The 1552 Inventory records bells of 4 cwt, 5 cwt and 6 cwt, with a 'chauncell bell' and a 'sacre bell'. 2 was cast by William Brend of Norwich and was damaged before 1853, when an unsuccessful attempt was made to stitch the crack[2]: although a leaflet advertising the restoration of the church in 1869[3] speaks of the need to recast the bell, all three bells, including the cracked one, were rehung for full-circle ringing in 1876[4]. 3 was a pre-Reformation bell from the Norwich bell-foundry, probably cast by John Baly, and might well be related to a bequest in 1507[5]. Following their removal from the tower, the treble bell was taken to Catfield where it was rehung as the treble in a ring of six, the second was recast for use at Forncett St. Peter[6] and the tenor was removed to Fundenhall[7].

The bell-frame, which is designed for three bells, has every appearance of being, for the most part, of the same date as the upper part of the tower. The constructional details suggest that the end-posts, corner-posts and long frame-heads were added to the frame at some date after the original construction, and that the floor immediately beneath the frame is a comparatively recent insertion.

The two foundation beams of the frame, 11 3/4 inches (300 mm) wide by 5 inches (130 mm) high, which rest on off-sets in the east and west walls of the tower, are built into the walls at their ends. The bottom cills of the trusses of the bell-frame are jointed to the foundation beams using lap-dovetail joints.

Apart from the frame-heads the four parallel trusses of the bell-frame appear to be in their original state, although some missing members are detailed below. The frame-heads are supported by vertical king-posts with curved braces to the bottom cills of the trusses. The two central trusses are complete with their long frame-heads and end-posts, but the extreme trusses have lost the eastern portions of their frame-heads together with the corner-posts[8]. Each truss has three pairs of vacant mortises[9], one pair in the upper surface of the

1. The writer was present.
2. Churchwardens' accounts. NRO. PD 278/7.
3. See NRO. PD 278/8.
4. Date incised on the bearing blocks.
5. 1507 Henry Lyncoln of Forncett St. Peter. NFK Cooke 26.
6. Faculty 1981.
7. See note on Fundenhall, p. 113.
8. See diagram A, p. 103.
9. See diagram B, p. 103.

FORNCETT ST MARY, St Mary the Virgin. October 25 1982.

DIAGRAM A. Frame-heads sketched at 1:25.

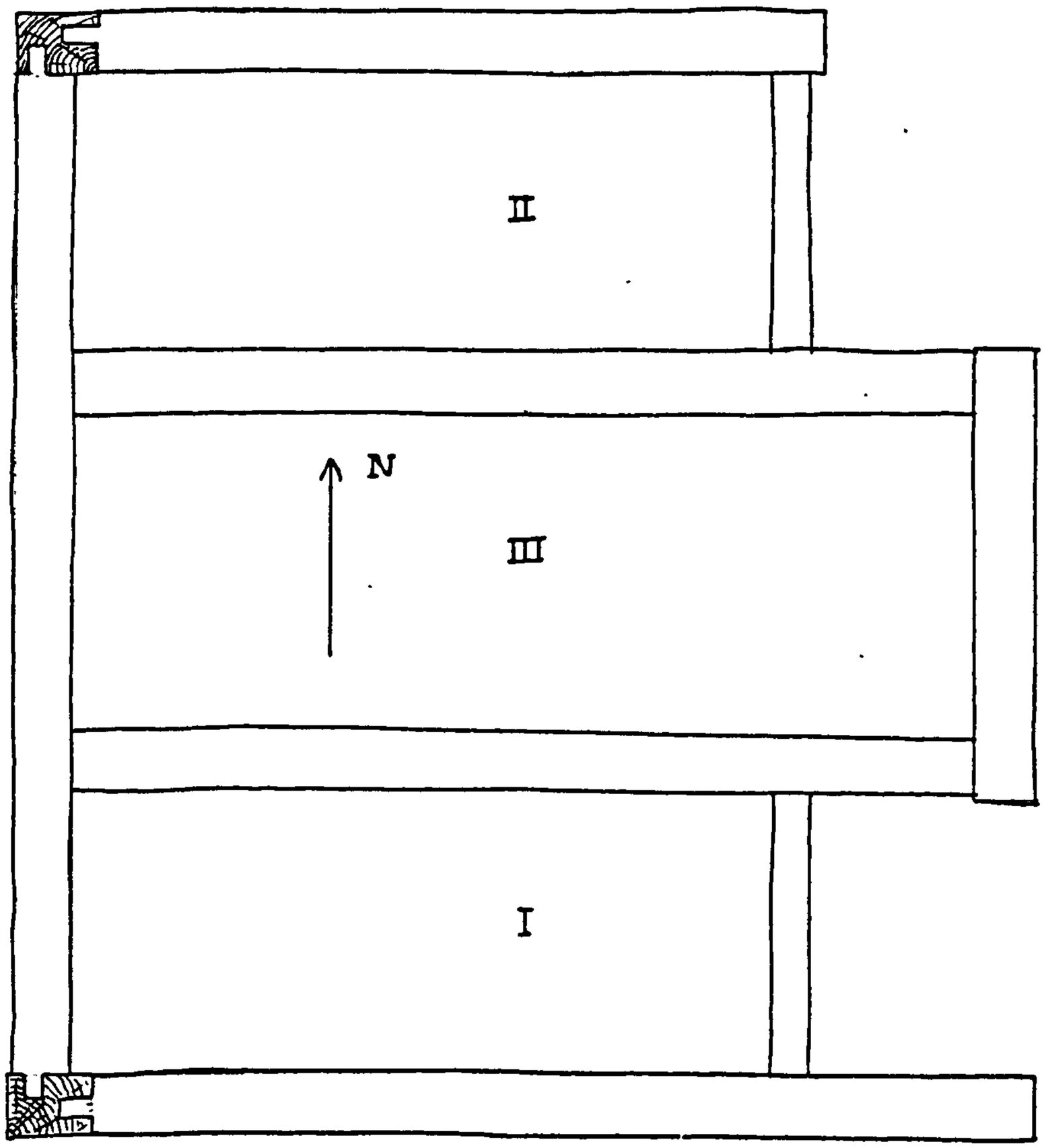
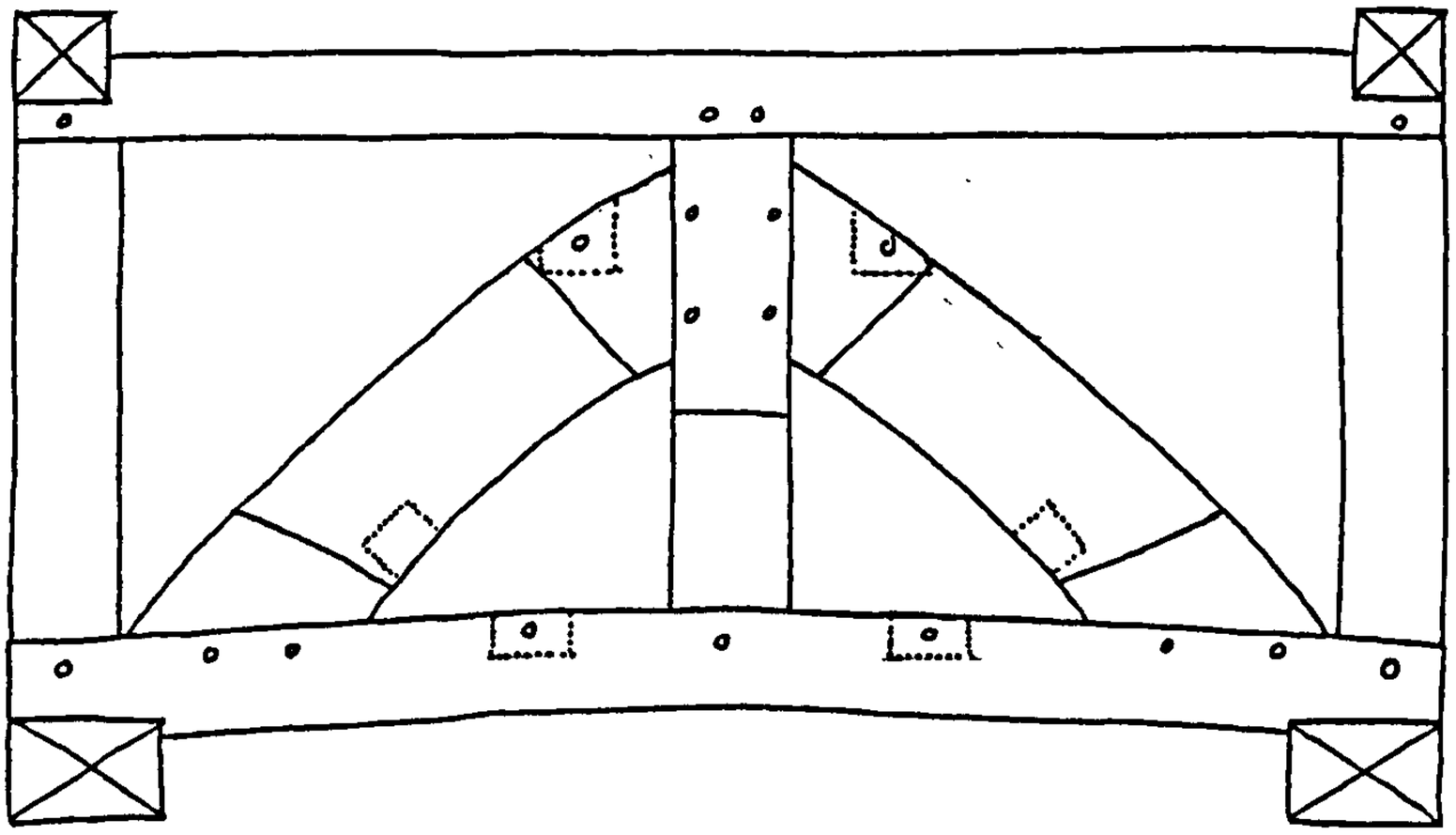


DIAGRAM B. Truss between bell-pits I and III sketched at 1: 25. The dotted lines show the positions of the vacant mortises.



(102)

FORNCETT ST MARY. October 25 1982.

DIAGRAM C. West end of frame sketched at 1:25
Viewed from the west.

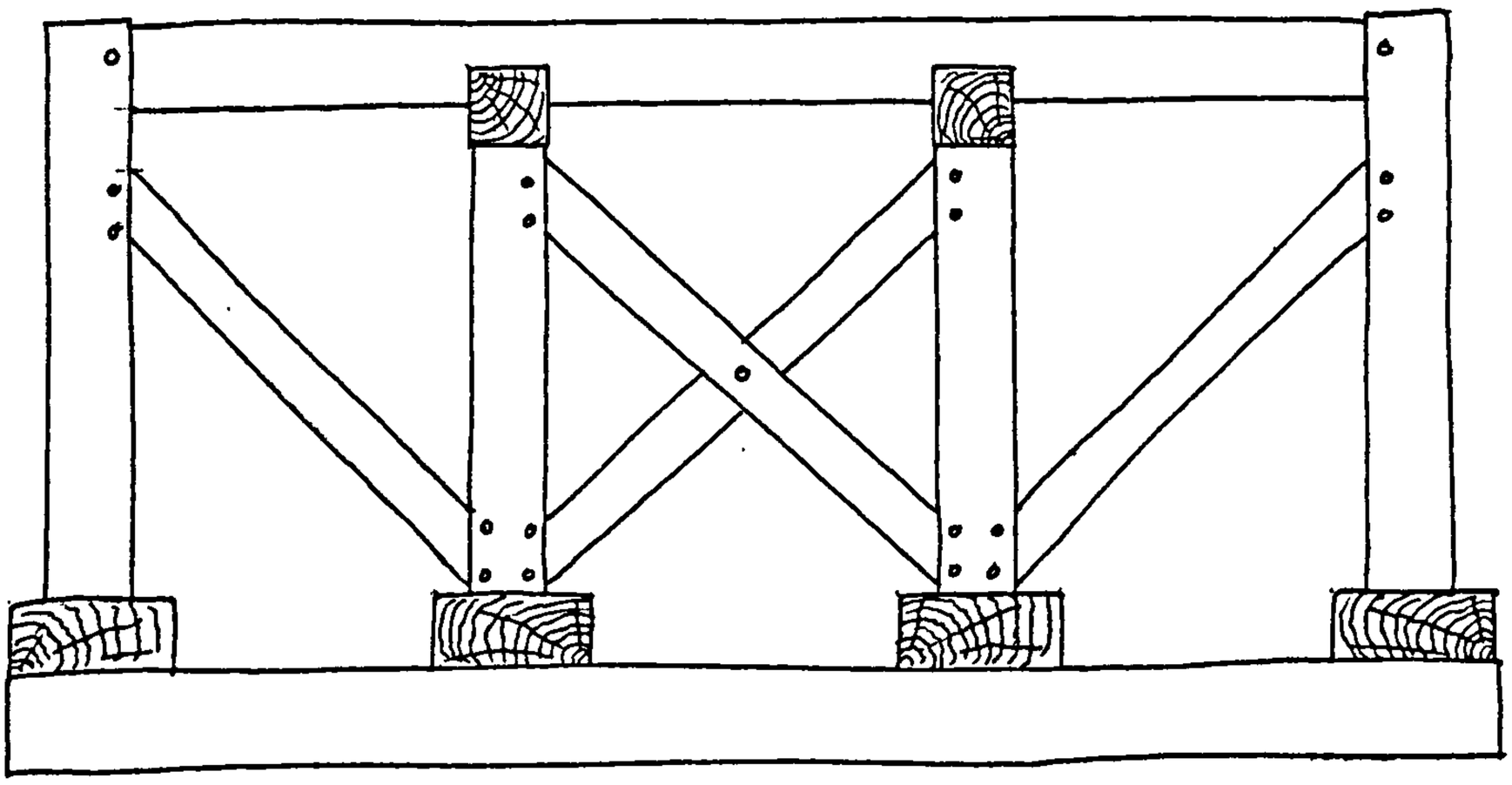
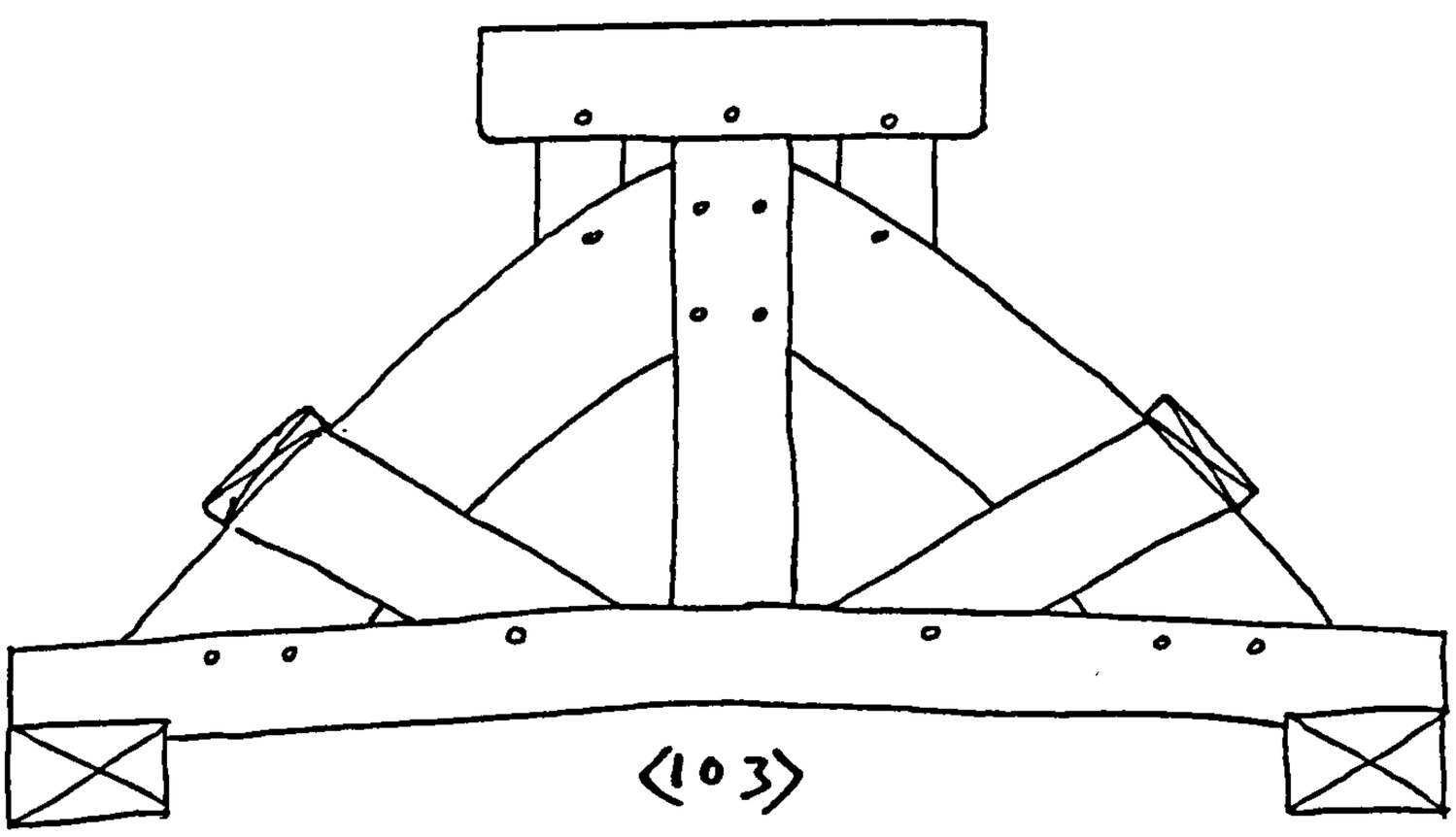


DIAGRAM D. Possible reconstruction of the frame trusses
in their original form.



curved braces, a second pair in the lower surface of the curved braces and a third pair in the upper surface of the bottom cills. It would appear that the mortises were designed to receive four additional struts which have subsequently been removed. The mortises in the upper surfaces of the braces would have located short vertical struts to give support to the frame-heads; but since the present long frame-heads are very well supported by corner-posts and end-posts, it would appear that the frame originally had short frame-heads, supported by short vertical struts from the braces, which were dispensed with when long frame-heads were introduced[1]. The positions of the mortises in the bottom cills and in the undersides of the curved braces suggest the removal of a short member from a position where, in the absence of long frame-heads and corner-posts, it would have added greatly to the strength of the trusses. The missing members seem to have been designed with a deep recess through which the curved braces passed, and at the bottom of which was a secret tenon entering the vacant mortise in the underside of the curved brace. The upper ends of the struts probably carried tenons which entered mortises in a horizontal transome rail whose function was to preserve the separation of the trusses. The rail was probably secured in place by nails through to the edges of the curved braces[2].

The presence of the vacant mortises for members which are not relevant to the existing design of the frame suggests very strongly that the original design of the frame had short frame-heads and that the long frame-heads are a much later modification. This supposition is supported by examining the clearances between the king-posts of the frame and clearances between the frame-heads[3]. The details are as follows:

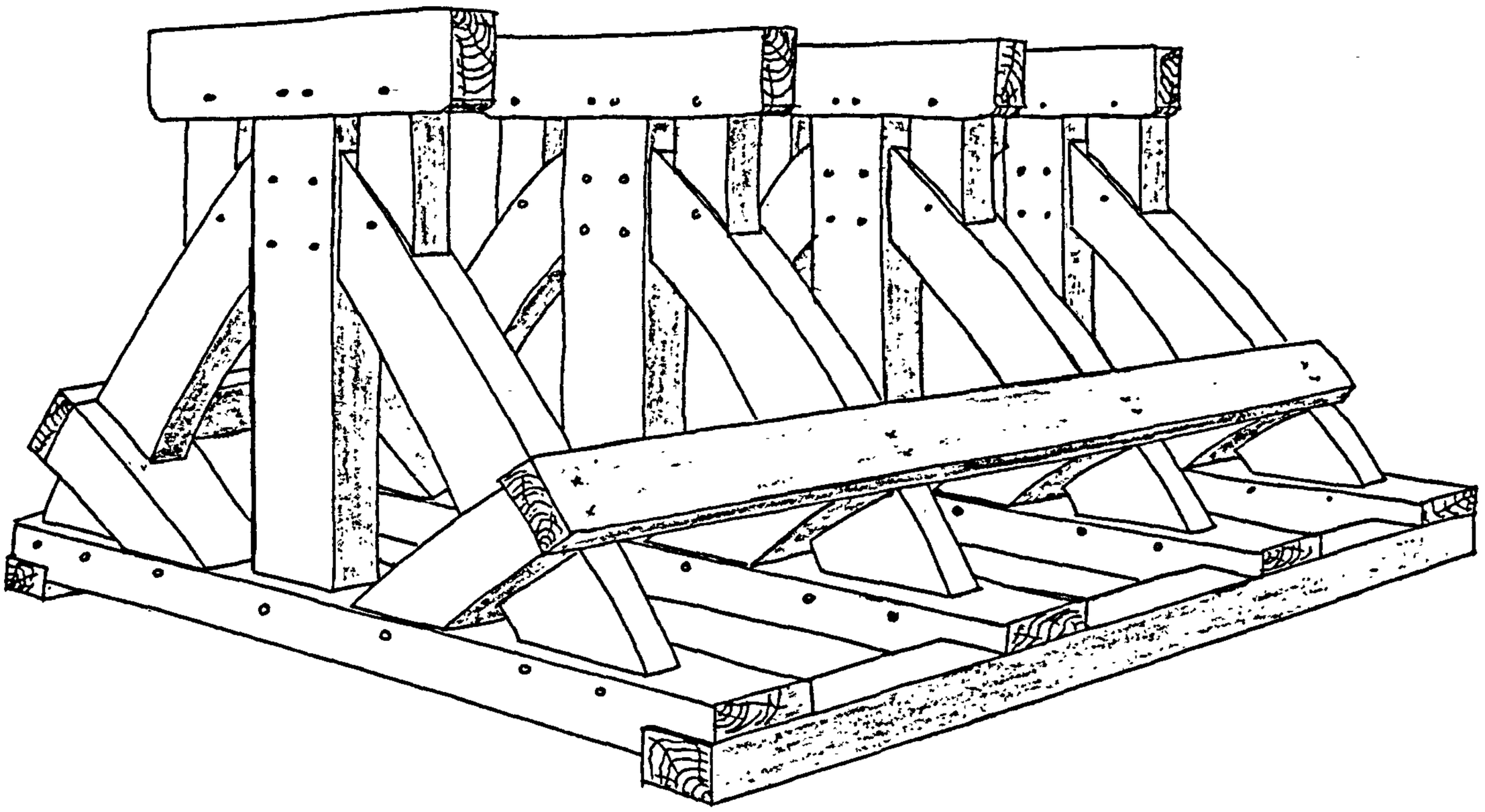
South pit: clearance between frame-heads 32 inches (810 mm), clearance between grooves in the king-posts 35 3/4 inches (910 mm).
Centre pit: clearance between frame-heads 35 1/4 inches (900 mm), clearance between grooves in the king-posts 40 1/2 inches (1030 mm).
North pit: clearance between frame-heads 29 1/2 inches (750 mm), clearance between grooves in the king-posts 34 inches (865 mm).

Since the cutting of grooves would weaken the king-posts, it is clear that this would not have been done unless it was intended to swing bells which were too large for the clearances between ungrooved king-posts. The frame was designed for bells whose weights were approximately 5 1/2 cwt, 7 cwt and 10 cwt, but the clearances between the existing frame-heads would restrict the weights of the bells to 4 cwt, 5 cwt and 6 1/2 cwt. It is likely that the frame-heads assumed their present form in the 18th century, since they have recesses for a set of bearings earlier than those installed in 1876[4], and it is suggested that the frame is basically of c. 1450 with 18th-century additions.

1. Compare with the frame design at Ashwellthorpe, p. 87.
2. See diagrams D and E, pp. 103, 105.
3. See diagram A, p. 102.
4. See p. 101, note 4.

FORNCETT ST MARY.

DIAGRAM E. Perspective sketch of the possible original form of the bell-frame.



FORNCETT ST. PETER: SS Peter and Paul. April 1983.

With the exception of the knapped flint parapet, the round west tower is uniformly constructed of neatly graded flint nodules. There is a west doorway whose internal details, except for the limestone imposts, are fashioned mainly of flint with a few thin tiles set at the top of the semi-circular arch; and the tall arch to the nave is of similar construction. Comparison with a lithograph of 1823 suggests that the outer jambs and voussoirs of the west doorway are a relatively modern replacement.

The openings in the tower walls include semi-circular headed lancets with wide internal splays, and circular openings with deep splays both inside and outside the tower. The four sound-windows are each of two lights separated by balusters: the west sound-window has a pair of semi-circular headed lights, while the other three sound-windows have a pair of triangular-headed lights. With the exception of the limestone balusters and capitals, all details of the sound-windows are worked in flint. The tower is much illustrated, and is usually described as a good example of Anglo-Saxon building[3].

The bells are a ring of six, tenor diameter 42 1/4 inches (1075 mm) weighing 13 cwt 0 qr 12 lbs and sounding F[2].

1. ANNO DOMINI 1603
   RECAST 1982 AND REHUNG IN ST PETER'S CHURCH
   FROM ST MARY'S CHURCH
   TO THE GLORY OF GOD
   AND IN THANKSGIVING FOR THE LIFE AND WORK OF
   MARY ARMSTRONG, B. E. M.
   1907 - 1980.

2. ANNO DOMINI 1602 WB
   TO THE GLORY OF GOD THIS BELL WAS RECAST
   AND THE PEAL REHUNG BY THE BARRON BELL TRUST
   1937. EMMA BARRON FOUNDER
   F. HOPKINS)
   C. M. WALROND) TRUSTEES
   H. W. ELDRED)

3. ANNO DOMINI 1602 WB

4. ANNO DOMINI 1602 WB

5. THOMAS NEWMAN MADE ME 1737
   WILLIAM SWAN CHVRCHWARDEN

6. CAST BY JOHN WARNER & SONS LONDON 1875.

1 was recast from the former second bell at Forncett St Mary and has, in common with 2, the foundry mark of Taylor of Loughborough: 3 and 4 are by William Brend of Norwich. A plate attached to the bell-frame

1. Pevsner, p. 163 and plate 3, for example.
2. NDA.

records the replacement of the old tenor bell in 1875 as follows:

> This bell weighing 14 cwt was bought by subscription in the year 1875 and hung here in the place of an older one which was cracked.
> W. G. Wilson) Rector.
> John Furniss) Churchwardens.
> Robert Hewitt)

L'Estrange[1] notes the inscriptions on the predecessors of bells 2 and 6 (which were 1 and 5 in his day) as follows:

1. ANNO DOMINI 1602 WB

5. CUM VOCO VENITE Z. BROOKE D.D.
T OSBORN ME FECIT 1783 JOHN PARKE CH.WARDEN

Bequests to the bells and bell-frame are noted in 1507, 1515 and 1516[2]; and the 1552 Inventory records bells of 8 cwt, 11 cwt, 13 cwt and 16 cwt. The five heavier bells hang in a two tier frame of oak which was installed when the bells were restored in 1937[3], and the newest bell is accomodated in a mild-steel extension to the upper frame.

Access to the first floor of the tower is gained by a ladder which appears to be very old. The treads are formed from solid triangular prisms of oak, spiked onto a pair of inclined joists with a bend at a height of about 15 ft (5 m) to allow for the curvature of the wall. There is a framed doorway, with an apparently contemporary door, at the foot of the stairs, and neatly framed panelling supports a banister-rail.

1. CBN, p. 132
2. 1507 Henry Lyncoln of Forncett. NFK Cooke 26.
   1515 Simon Bunde of Forncett. NFK Batman 35.
   1516 John Davy of Forncett. NFK Batman 56.
3. *Ex inf.* J. Taylor & Co. of Loughborough.

FRITTON, St Catherine. April 1982.

The west tower is round with an octagonal belfry. The two lower stages, to a height of about 25 ft (8 m), are constructed of neatly coursed flint; and the arch to the nave has simple limestone imposts beneath a semi-circular arch, all details of which are covered with plaster. From the design of the tracery (which is of limestone, as are the jambs of the external opening), the west window appears to be an insertion of mid 15th-century date[1]. Between the heights of about 25ft (8m) and 35 ft (11.5m) the tower is constructed of uncoursed flint and, from the inside, blocked windows with brick jambs and voussoirs are visible in the north, west and south quarters of the tower; the western opening remains, in an altered form, as a window lighting the first-floor chamber. At a lower level a blocked, square-headed, opening formerly gave access at the level of the pitch of the nave roof. From the outside a pronounced brick weathering on the east face of the tower marks the line of a former roof of much higher pitch than the existing modern nave roof. The apex of the weathering coincides with the cill of a blocked window whose external jambs and voussoirs, of brick, are clearly visible.

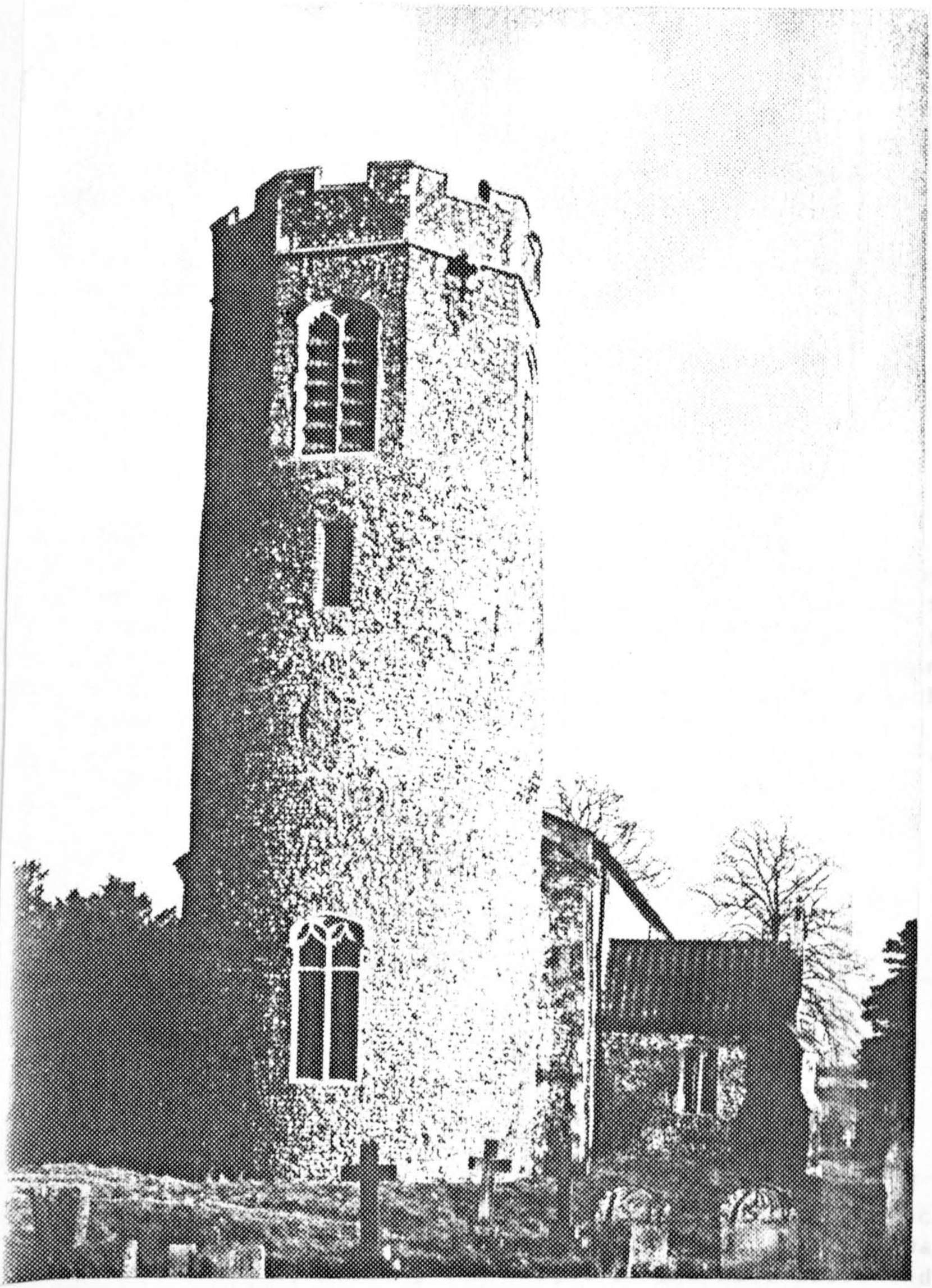
The octagonal belfry stage of the tower, which completes a total height of about 50 ft (16.5 m), is of different construction from the round parts of the tower. The walls of the octagon, whose angles are formed in brick, are constructed of flint nodules with a high proportion of randomly placed brick. The internal details of the sound-windows, in the cardinal faces of the tower, are of brick, and the external jambs and traceries are of limestone: their two-light openings, beneath shallow four-centred arches, have voussoirs of alternate brick and flint. The parapet is of knapped flint with limestone coping and quoins.

It appears that the lower part of the tower is contemporary with a small church of Anglo-Saxon date, to which it is joined by fillets in the angles between the tower and west nave wall[2]. The Anglo-Saxon tower seems to have been increased in height to about 35 ft (11.5 m) before the construction of a new roof whose date is suggested by a bequest in 1510, and probably at the same time as an increase in height of the nave walls suggested by a bequest in 1502[3].

1. Comparison may be made with the north wall of the church at Alburgh, where there is related tracery whose date is suggested by a bequest in 1464 (C&C)
2. H. M. and J. Taylor, *Anglo Saxon Architecture*, Cambridge, 1965 - 1978. Such fillets are often taken (vol.I, 270, for example) as evidence in favour of an 11th or 12th-century date.
3. 1502 Roger Brom of Fritton. NCC Popy 300.
   '... I bequeth to the heynyng of the wallis of the seyde church xxvj s. viij d. ...'
   The word 'heyning' survives in the dialect to mean raising or increasing in height.
   1510 John Johnson of Fritton. NCC Johnson 1. There is a direction to his executor as follows:
   '... he shall pay to the reparation of the said chirch rooff of Freton vj s. viij d. ..'

FRITTON

March 1980.



Round tower, probably Anglo-Saxon, increased in height by c. 1510, with an octagonal belfry probably completed in c. 1550.

Limestone is used for the lowest 12 ft (3.5 m) of the north-west and south-west nave quoins, with brick completing a total height of about 20 ft (6.5 m), and the neat brick kneelers of the west wall correspond to the line of a brick weathering on the east side of the tower, which relates to an older roof[1]. It seems likely that the brick weathering corresponds to the heightening of the church walls in c. 1502 and the new roof of c. 1510[2]. Although a higher roof would not have obstructed the east sound-window in the upper stage of the round tower it would have looked disproportionately high, and it is suggested that the octagonal belfry was built after the raising of the nave roof. A date as late as c. 1550 has been suggested for two of the bells[3], and it is possible that the construction of the belfry and the installation of the bell-frame were all part of the same scheme.

The bells are a ring of three, tenor diameter 36 1/4 inches (920 mm) weighing approximately 8 cwt and sounding A.

1. HEN: YAXLE MADE ME 1671

2. a a b c E R g h i

3. + a a b c d e f g h i C D E A B

The 1552 Inventory records bells of 3 cwt, 5 cwt and 7 cwt; and 2 and 3 are bells of similar design which appear to be the work ofa single pre-Reformation founder. The inscriptions which accompany impressions of a Norwich founders' shield are sections of the alphabet stamps used by the pre-Reformation Norwich bell-founders, and the appearance of the initials 'ER' on the second bell suggests the bells might have been cast during the reign of Edward VI. The two bells are probably the work of John Alleyn, who worked the Norwich bell-foundry from 1513 to c. 1555, following the death of Richard Brasyer II[4] .

1. The pitch of the nave roof has clearly been altered and the present low-pitched roof, which is a light scissors-braced construction suitable only for a covering of slates[1], was accommodated by raising the height of the nave walls and lowering the apex of the roof.
2. See p. 108, note 3.
3. See below,
4. See pp. 406 and 410. A printed leaflet, entitled 'The song of Fritton bells', which was published at the time of their restoration in 1906 (NRO., PD 56/87), states firmly that the two larger bells were made and hung in the reign of Edward VI; but no Fritton wills or other documents have, so far, provided definite evidence for a date.

FRITTON, St Catherine.

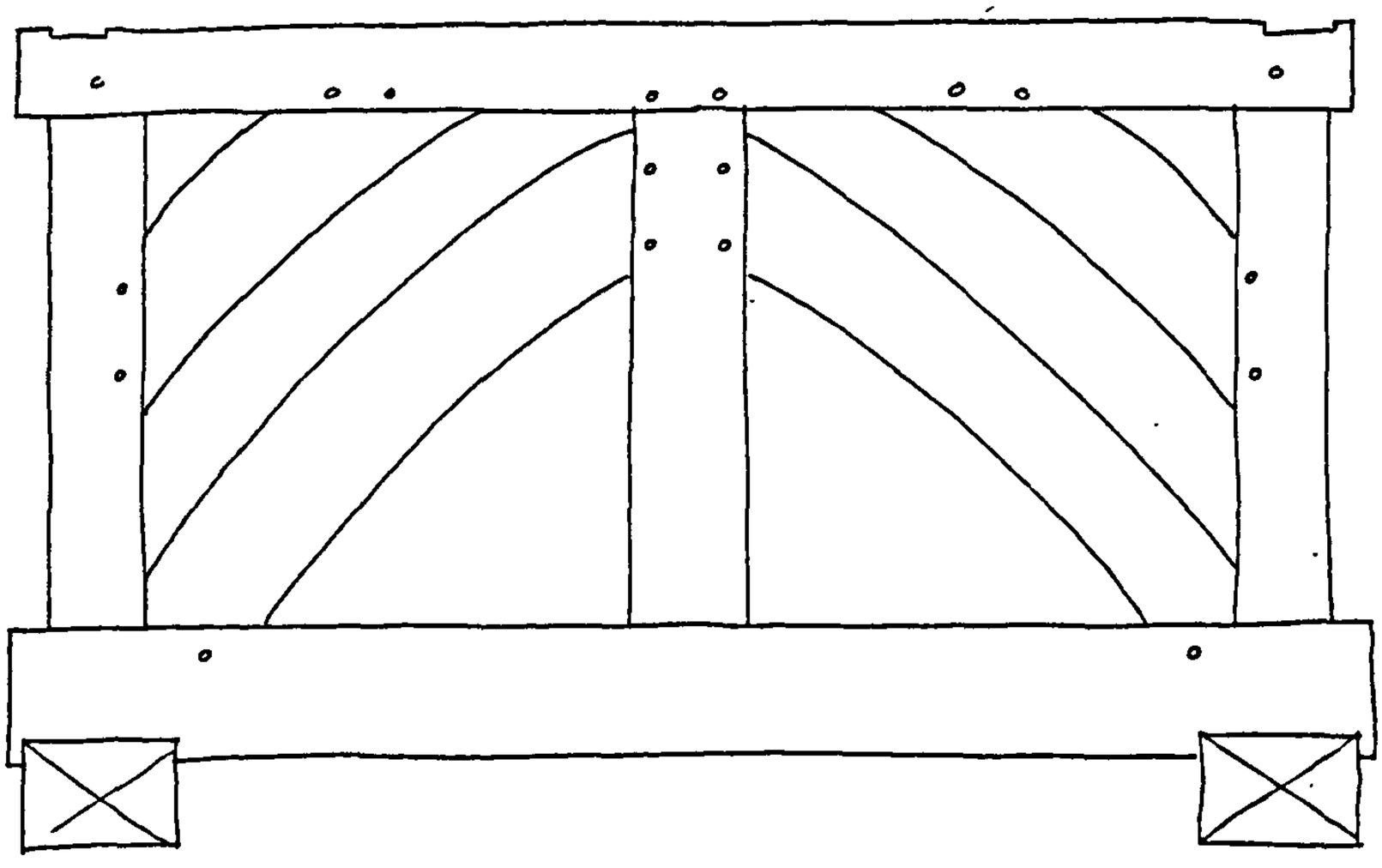


Diagram A. Sketch of central truss of bell-frame
Scale 1 : 20 approximately.

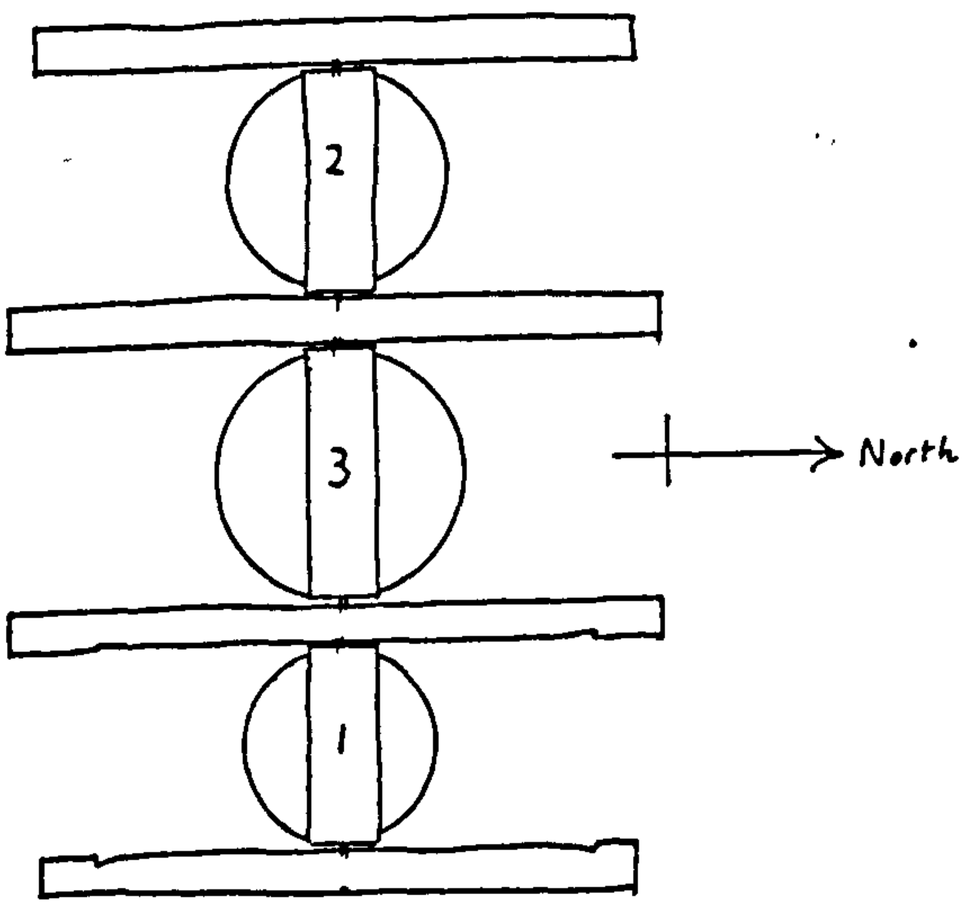


Diagram B. Plan of bell-frame
Scale 1 : 50 approximately.

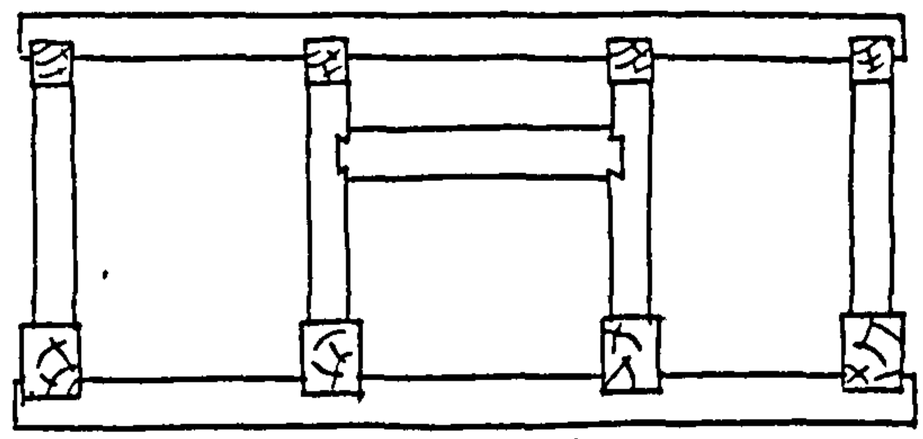


Diagram C. Sketch of south elevation of the bell-frame.
Scale 1 ; 50 approximately.

1 was cast by Henry Yaxley and is of curiously archaic design, having above the inscription ring a wide band which is very rarely found on post-Reformation bells. Only three bells are known to bear Henry Yaxley's name, one each in Norfolk, Suffolk and Essex[1]. A fourth bell which can be ascribed to him on the evidence of the Bressingham churchwardens' accounts[2] bears the name of Miles Graye, but it appears to have been cast by Yaxley at Thrandeston in the same year as the Fritton bell (1671). No record of major work on the bells or bell-frame has been traced in the Fritton churchwardens' accounts covering the period 1678 to 1740[3].

The bell-frame is designed for three bells to swing north-south and was restored and repaired in 1906, when the floor beneath was replaced, together with one of the foundation timbers. The north foundation timber, which was built into the walls of the octagon, remained until repair work in 1982. The two trusses on either side of the central pit appear to be part of the original structure but the east and west trusses are of much slighter construction, and of poorer workmanship, thus appearing to be later replacements. The central trusses consist of cambered tie-beams, lap-dovetailed into the foundation beams, supporting king-posts and end-posts. Each truss has a pair of curved braces on either side of the king-post, one brace supporting the king-post from the foundation and the second brace strengthening the corner between the long frame-head and the end-post. The top cill running at right-angles to the bell-pits is notched over the frame-heads and appears to be part of the original design, its purpose being to preserve the separation of the trusses. The frame is arranged thus:

East pit 30 1/4 inches (780 mm) wide for a bell of 4 cwt.
Centre pit 38 1/4 inches (970 mm) for a bell of 8 cwt.
West pit 34 1/2 inches (875 mm) wide for a bell of 5 3/4 cwt.

The two larger bells, whose diameters are 32 inches (815 mm) and 36 1/4 inches (929 mm) fit well into the centre and west pits, and it appears that the bell-frame is basically of the same date as the octagonal belfry, probably c. 1550.

1. C. E. Deedes and H. B. Walters, *The church bells of Essex*, Aberdeen, 1909, p. 111, note bells at Fritton, Wyverstone (Suffolk) and Great Sampford (Essex).
2. See p. 163.
3. Discovered at the bottom of a chest in the tower in June 1984 by the Reverend S. R. Nairn, and inspected at Woodton Vicarage.

FUNDENHALL, St Nicholas. June 1978.

The church consists of a nave and chancel with a central tower whose two lower stages are built of neatly coursed flint nodules, with small limestone quoins. The narrow, round-headed windows in the tower ground-floor chamber, and the shafted jambs of the arch between the tower and the nave, suggest a Norman date for the lower part of the tower; while the bell-chamber presents an appearance which suggested an Early English date to Pevsner[1], who was misled by R. M. Phipson's convincing remodelling of the tower in 1868-1869[2]. An old photograph shows that the exterior of the belfry stage was of flint with limestone quoins and that the sound-windows had brick jambs and mullions[3]. The inside of the bell-chamber is unrestored, and considerable use of brick for the details of the sound-windows is noted. It seems very likely that the upper stage of the tower may be dated by a bequest in 1418[4].

The bells are a ring of five, tenor diameter 38 1/2 inches (975 mm) weighing approximately 10 1/4 cwt and sounding A flat. The inscriptions recorded in 1978 were as follows:

1. THOMAS LESTER & THOS PACK FECIT J754

2. THOMAS LESTER & THOS PACK FECIT J754

3. THOMAS LESTER & THOS PACK FECIT J754

4. THOMAS LESTER & THOS PACK OF LONDON FECIT J754
   ROBERT BIRD C:WARDEN J754

5. + Sonitu Sum Sanus Me * Fecit Baxte Ricardus.

5, whose spelling and punctuation are as recorded, is a very good example of the work of Richard Baxter of Norwich who is known to have worked in the period c. 1416 to c. 1457[5]. Since the bells were examined in 1978 the third bell, which was badly cracked, has been removed and its place taken by the former tenor bell from Forncett St Mary[6]. The inscription is:

3. + In Multis Annis * Resonet Campana Ioh'is.

The 1552 Inventory records bells of 8 cwt, 10 cwt and 12 cwt., and Blomefield[7] records the inscriptions on two of the bells as follows:

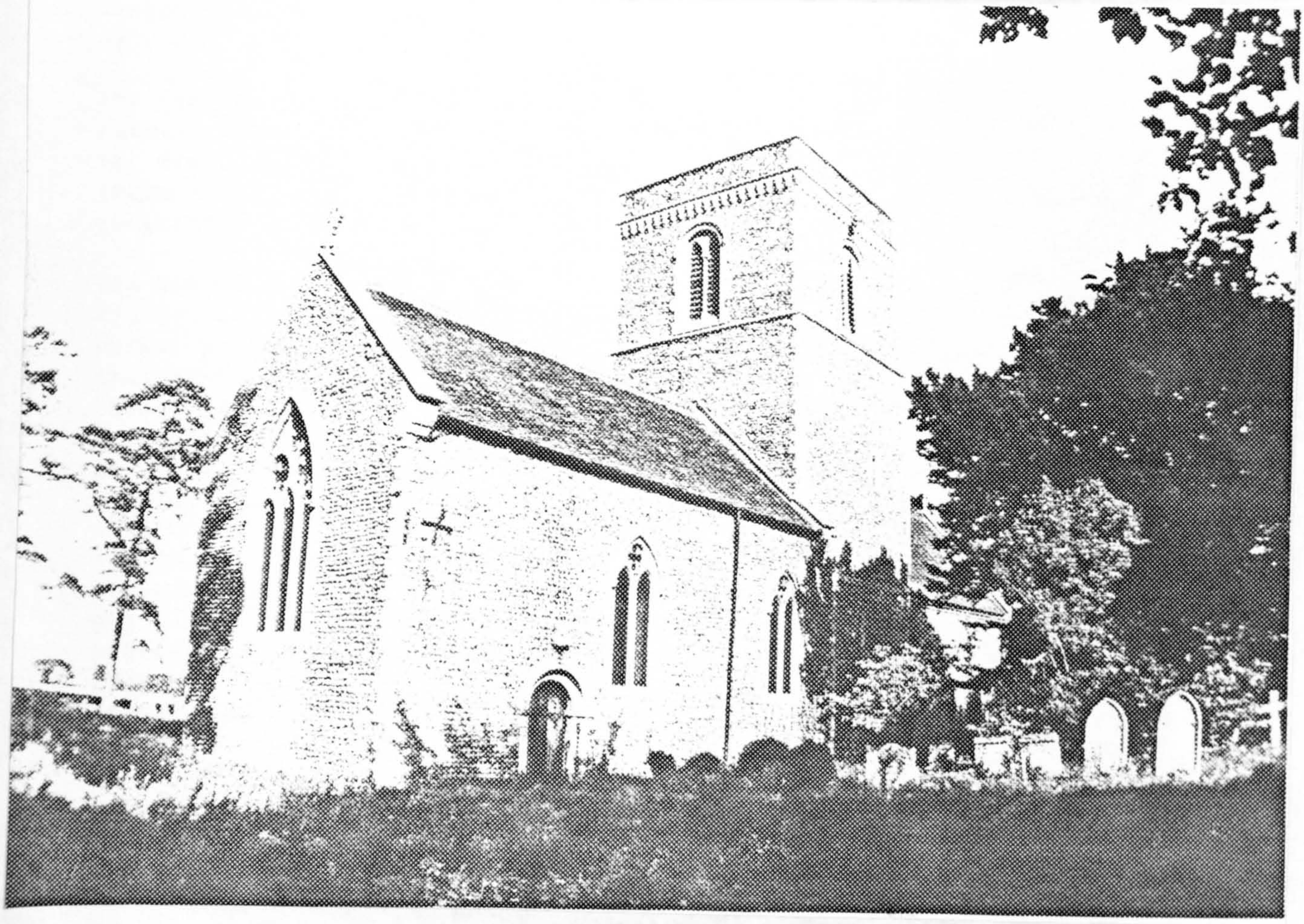
1. Sonitu sum sanus, me fecit Baxter Ricardus

2. Munere Baptiste, Benedictus sit Chorus iste.

1. Pevsner, p. 166.
2. NRO., PD 30/10.
3. Colman-Rye Library, Norwich collection.
4. C&C.
5. See p. 428.
6. Faculty 1981.
7. Blomefield V, 174.

FUNDENHALL

April, 1980.



Norman central tower with bell-chamber of c. 1418, remodelled in 1869.

The bell-frame rests on a floor of stout oak boards, which is itself supported on a set of light joists running east-west on top of a pair of stout foundation beams running north-south. The undisturbed masonry at the extremities of the joists and supporting beams suggests that they are of the same date as the upper part of the tower. The bell-frame was designed for three heavy bells to swing east-west, and was later adapted to accomodate a lighter ring of five bells. With the exception of two short sections of the top cills, all the original timber survives, although the south truss has been extensively patched.

The foundation beams of the bell-frame are a pair of stout timbers running north-south, 10 1/2 inches (270 mm) wide and 9 3/4 inches (250 mm) deep, which are in no way jointed to the supporting floor. The frame stands clear of the tower walls and does not rely on them for horizontal location.

The bottom cills of the four trusses are 8 inches (205 mm) wide by 8 1/2 inches (220 mm) deep and these are halved onto the two foundation beams, with a projection of 6 1/4 inches (160 mm) at either end. The trusses have long frame-heads supported by king-posts which are themselves braced to the bottom cills by curved braces. The curved braces have no mortises for short head-struts as noted in the frames at Ashwellthorpe and Forncett St. Mary[1]. The frame-heads are also neatly jointed into massive corner-posts and end-posts, 10 1/2 inches (270 mm) square, whose feet are jointed to both foundation beams and bottom cills of the trusses. The extensions of the bottom cills outside the foundation beams, allow a strong joint between the cills and the vertical posts. The form of the trusses, and the lack of any provision for a horizontal transome to preserve their separation, suggests that long frame-heads are part of the original design of the frame. Neither the frame-heads nor the king-posts are recessed to allow the bells to swing past, and there was ample clearance for three large bells[2].

South pit 41 1/4 inches (1050 mm) for a bell of 10 1/4 cwt.
Centre pit 48 inches (1190 mm) for a bell of 19 cwt.
North pit 43 1/4 inches (1100 mm) for a bell of 14 cwt.

The existing tenor bell occupies the narrowest pit of the three-bell frame and it would appear that the terms of a Faculty petition in 1754[3] were carried out. The petition stated that the three bells were too heavy for the tower and asked permission to have the two larger bells recast into four smaller bells, and to thereby retain their former treble bell as the tenor in a new ring of five bells. The adaptation of the frame for five bells, by the narrowing of two of the pits of the three-bell frame and hanging the four newer bells there, seems to have been accomplished in 1754, and the frame appears to have suffered no further modification. The bequest of 1418 and the contemporary bell suggest that the frame is of about the same date.

1. See notes on Ashwellthorpe (p. 84) and Forncett St. Mary (p. 102).
2. See diagrams, p. 115.
3. NRO., NDR., FCB. III, fo. 19.

DIAGRAM A.

Plan of frame-heads.

Sketched at 1:50

As adapted to house the ring of five bells hung in 1754.

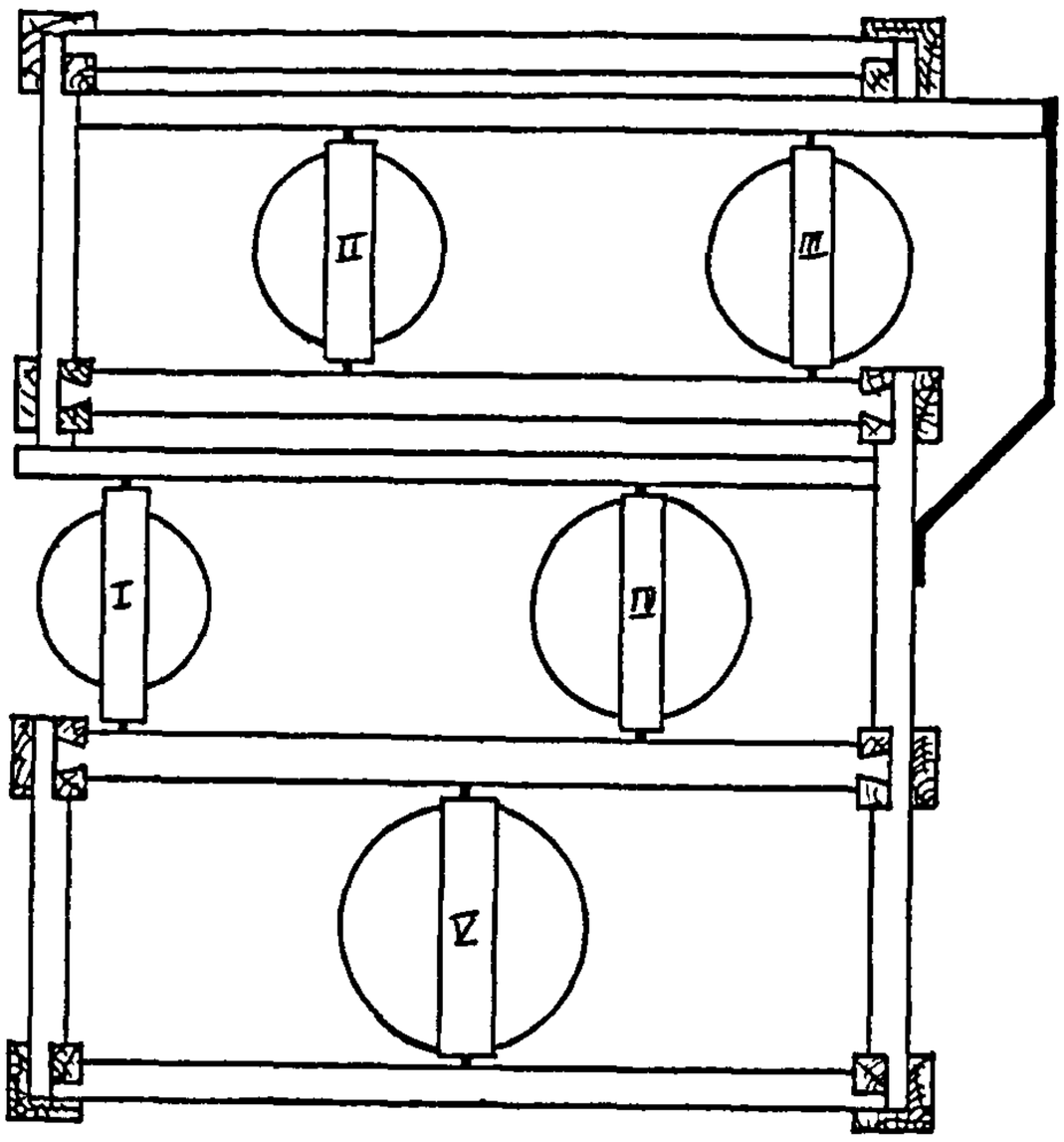


DIAGRAM B.

Truss of bell-frame.

Sketched at 1:50

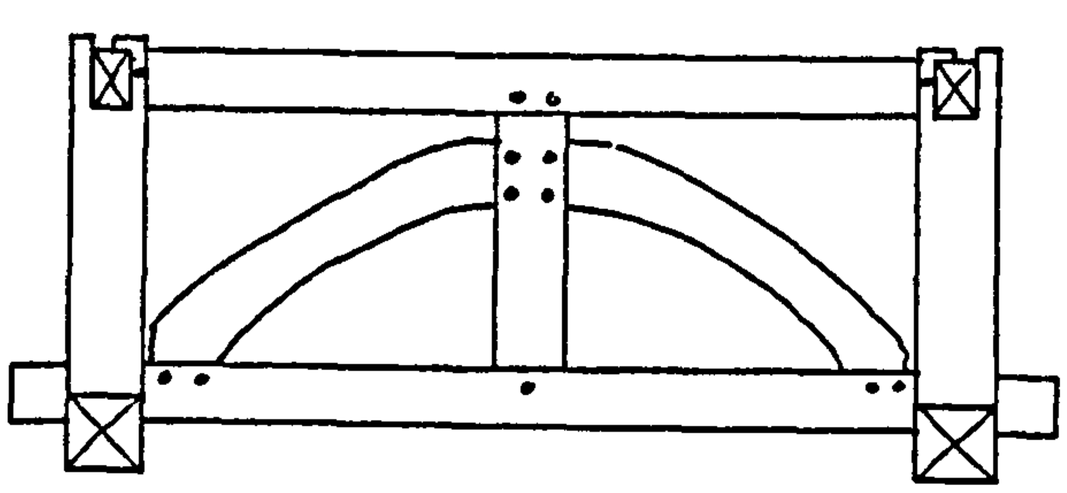
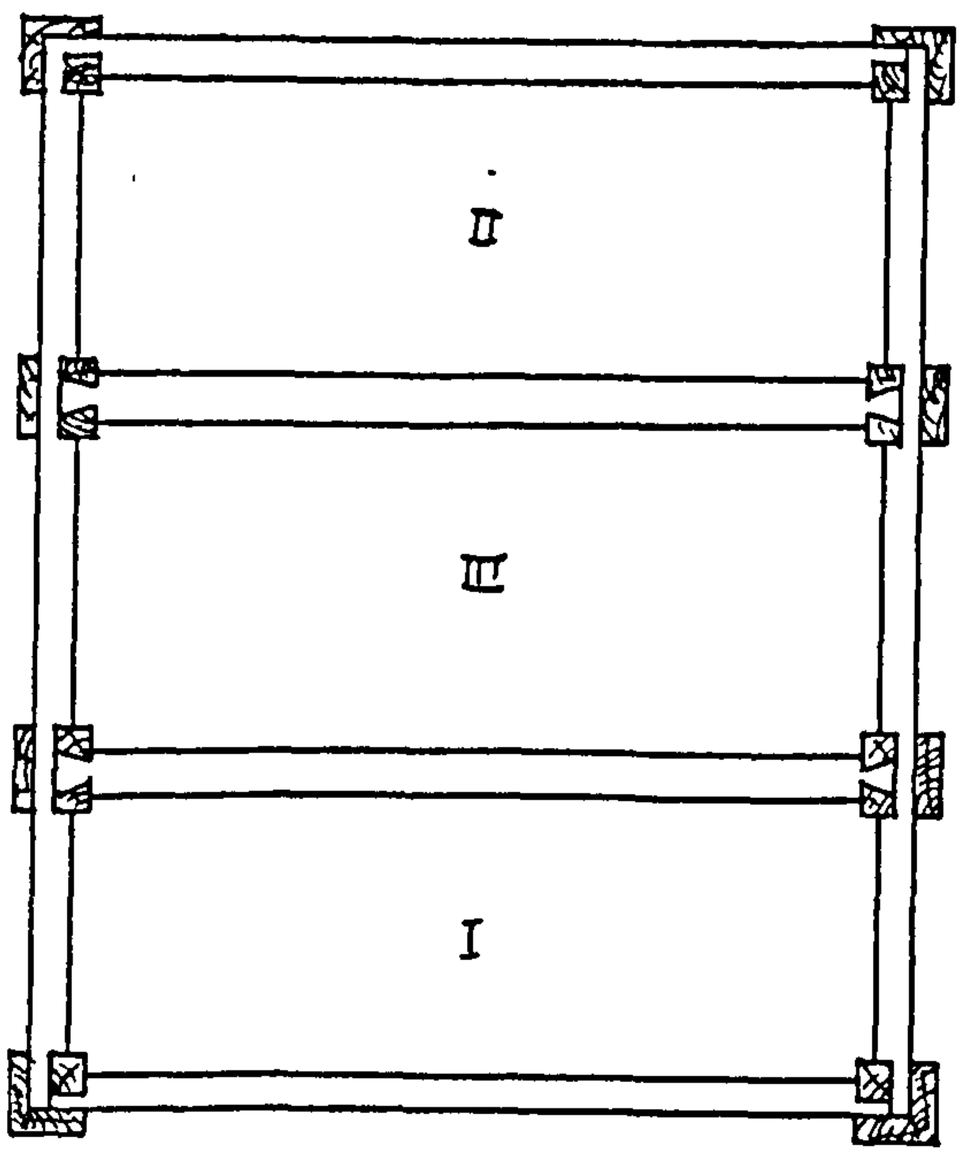


DIAGRAM C.

Plan of frame-heads as designed for a ring of three bells.

Sketched at 1:50.



HAPTON, St Margaret. August 1983.

The small square west tower, which was built in 1847[1], is of brick with a facing of flint and dressings of limestone. Blomefield[2] noted that that there was no tower and in his time the single bell was hung in a frame in the churchyard.

There is a single bell, diameter 20 inches (510 mm), weighing approximately 1 cwt.

1. T. MEARS OF LONDON FECIT JAMES BURGESS CHURCH WARDEN 1826.

The 1552 Inventory records bells of 4 cwt, 5 cwt and 6 cwt. The frame is a very slight construction, resting on the first floor of the tower.

HARDWICK, St Margaret. April 1977.

No date could be traced for the collapse of the round tower, whose remains are at the west end of the church[3]. The churchwardens accounts, seen at the church, consist of a few loose sheets beginning in 1649, and the only record of work on the tower is in 1717, when there were minor repairs.

The single bell has a diameter of 28 1/2 inches (725 mm) weighing 4 cwt 2 qr 26 1/2 lbs, according to the parish register[4].

1. S COPPING AND D KEMP C W S SHUCKFORD D.D. RECTOR 1743.

The 1552 Inventory records a single bell of 5 cwt, and the existing bell is by Thomas Newman of Norwich.

The register for 1743 has the entry:

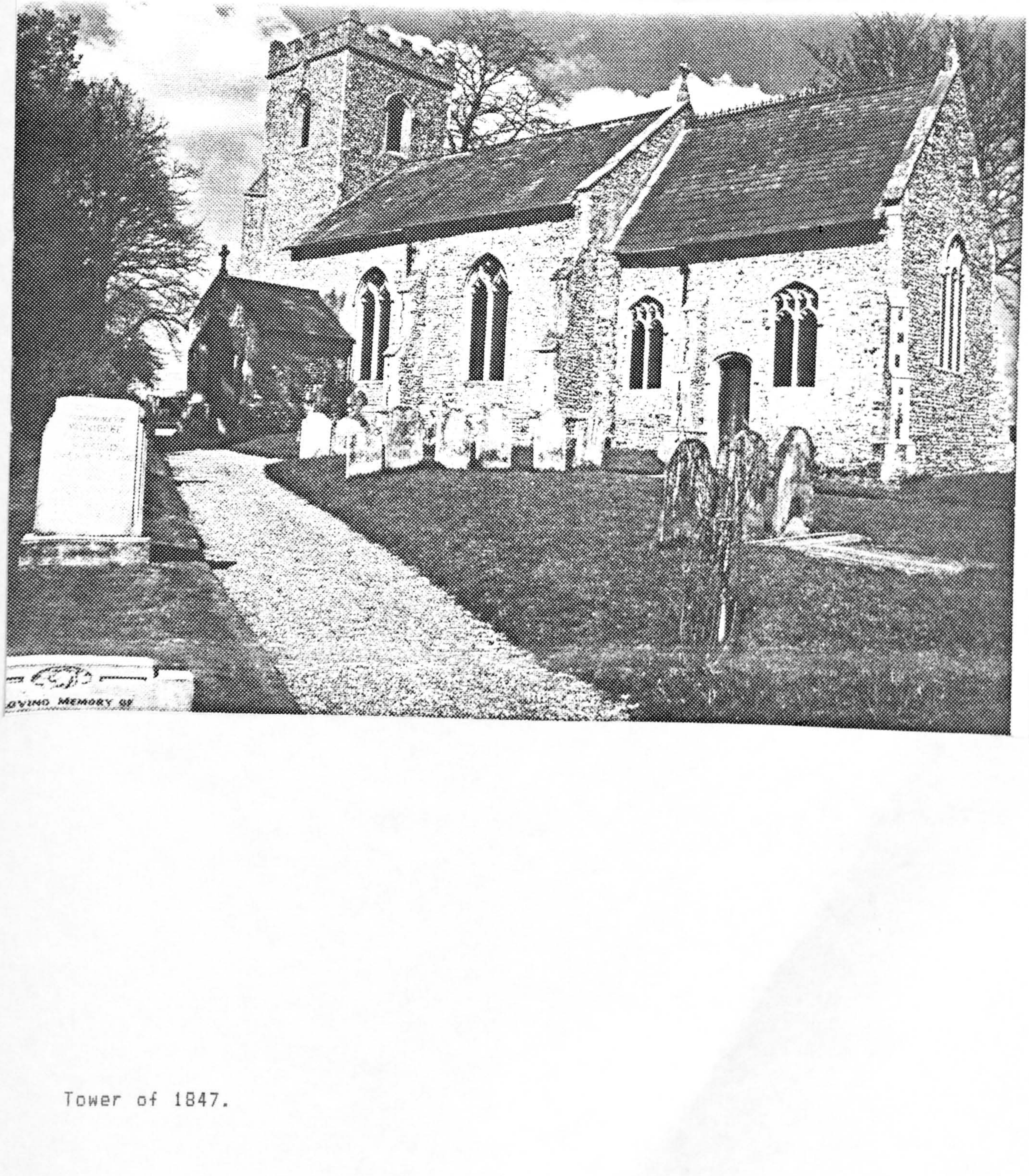
> 'There was no other inscription on the bell taken down to be new cast, upon account of its being split, than what follows in the following characters: + A V E G R A C I A P L E N A. These characters were in a circle near the head of the bell. Whether Hardwick church or only the bell was dedicated upon the Annunciation of the Virgin Mary I cannot say. The split bell weighed 4 c. 0 q. 9 li. The new cast bell weighed 4 c. 1 q. 26 1/2 li. and was put up on September 28'.

The bell hangs between sheer-legs in a shed which has been built in the ruins of the old tower at the west end of the church.

1. *Kelly's Directory of Norfolk*, London, 1916, p. 171.
2. Blomefield V, 176.
3. The Faculty Books and the records of the Archdeacon's Visitations were searched at NRO.
4. Register seen at the church.

HAPTON

April, 1984.



Tower of 1847.

HEMPNALL, St Margaret. November 1981.

The square west tower, built of flint with dressings of limestone, has diagonal buttresses at the north-west and south-west corners and an embattled parapet. The Perpendicular tracery of the three-light west window is of similar design to that in the windows of the south aisle, and the four sound-windows are each of two lights with simple 'Y' tracery. There are also two quatrefoil ventilators in the west wall of the first-floor chamber, and one in each of the north and south walls.

It is clear from a record of a Deposition in the Norwich Consistory Court[1] that funds were being raised to improve the bells in Hempnall church in c. 1490. A court action took place in 1502 between the churchwardens and one John Vernon, who was said to have been present on an occasion in c. 1490 when there was discussion concerning the increase in the number of bells in Hempnall tower, and who had been summoned for the non-payment of bequests made by his father. It had been suggested that the bells, whose number is not specified, might be increased by the addition of a new treble bell, and John Vernon is said to have replied:

> 'keep your money in your purses, for by the will of my father I am bound to give a tenor bell, and his will I will perform'.

Whether the new bell had been acquired when money was left towards a new bell-frame in 1505[2] is not known, but two wills in 1522[3] bequeath money to the recasting of the 'great bell' of Hempnall. Major work on the church had clearly been completed at about the same time, since a will of 1504[4] leaves money to the hallowing of the church, and it seems very likely that a building campaign which probably included the tower was completed in the early 16th century. The church guide book[5] states that the tower is 13th-century, but it seems more likely, from the above, that the tower was raised to its present height at about the beginning of the 16th century.

In addition to a set of tubular bells installed in 1904[6], there is a single conventional bell, diameter 21 3/4 inches (550 mm) weighing approximately 2 1/4 cwt.

1. IOHN STEPHENS FECIT 1726

The 1552 Inventory records a single bell of 5 cwt, and nothing, apart from a foundation beam and a single upright, survives from a bell-frame. The single bell hangs from a light beam, to be used only in connection with the church clock.

1. E. D. Stone, 'Norwich Consistory Court Depositions 1499-1530', *Norfolk Record Society*, volume X, Norwich, 1937, no. 38.
2. 1505 John Halle of Hempnall. NCC Ryxe 302.
3. C&C.
4. C&C.
5. R. Tricker, *The Hempnall Group*, Hempnall, 1977, p. 9.
6. R. Tricker, *op. cit.*, p. 10.

MORNINGTHORPE, St John Baptist. January 1981.

The round west tower is comparatively large, having an internal diameter of about 12 ft (3 m) at ground level. The two lower stages of the tower, to a height of about 35 ft (11.5 m), are constructed of neatly coursed flint nodules, and the arch to the nave is tall, with a semi-circular head on simple grooved imposts. The windows which light the first-floor chamber suggest an early date for this part of the tower[1], and the large two-light west window to the ground-floor chamber appears to be a much later insertion. Immediately above the level of the first floor window openings the construction of the tower changes considerably, where it batters noticeably and the flints are rough and uncoursed. The internal plan of the tower at this level is heptagonal and there are recesses in the flintwork for massive beams, possibly to support a former roof at a height of about 45 ft (15 m). Above this section there is a wide internal off-set at the base of the bell-chamber, which is round with walls only 2 ft 3 inches (700 mm) thick. The unusual design of the two-light sound-windows has equilateral two-centred brick arches[2] with brick soffits inside, while the external openings, where all details are of limestone, have very shallow four-centred arches.

It is suggested that the lowest stages of the tower are contemporary with the small unaisled Anglo-Saxon nave[3], and that the tower was initially increased in height by about 10 ft (3 m) well before the addition of a bell-chamber, for which a date of c. 1504 is suggested by a bequest towards work on the steeple[4].

The bells are a ring of three, tenor diameter 34 inches (865 mm) weighing approximately 7 1/2 cwt and sounding B flat.

1. Anno Domini 1626

2. Anno Domini 1626

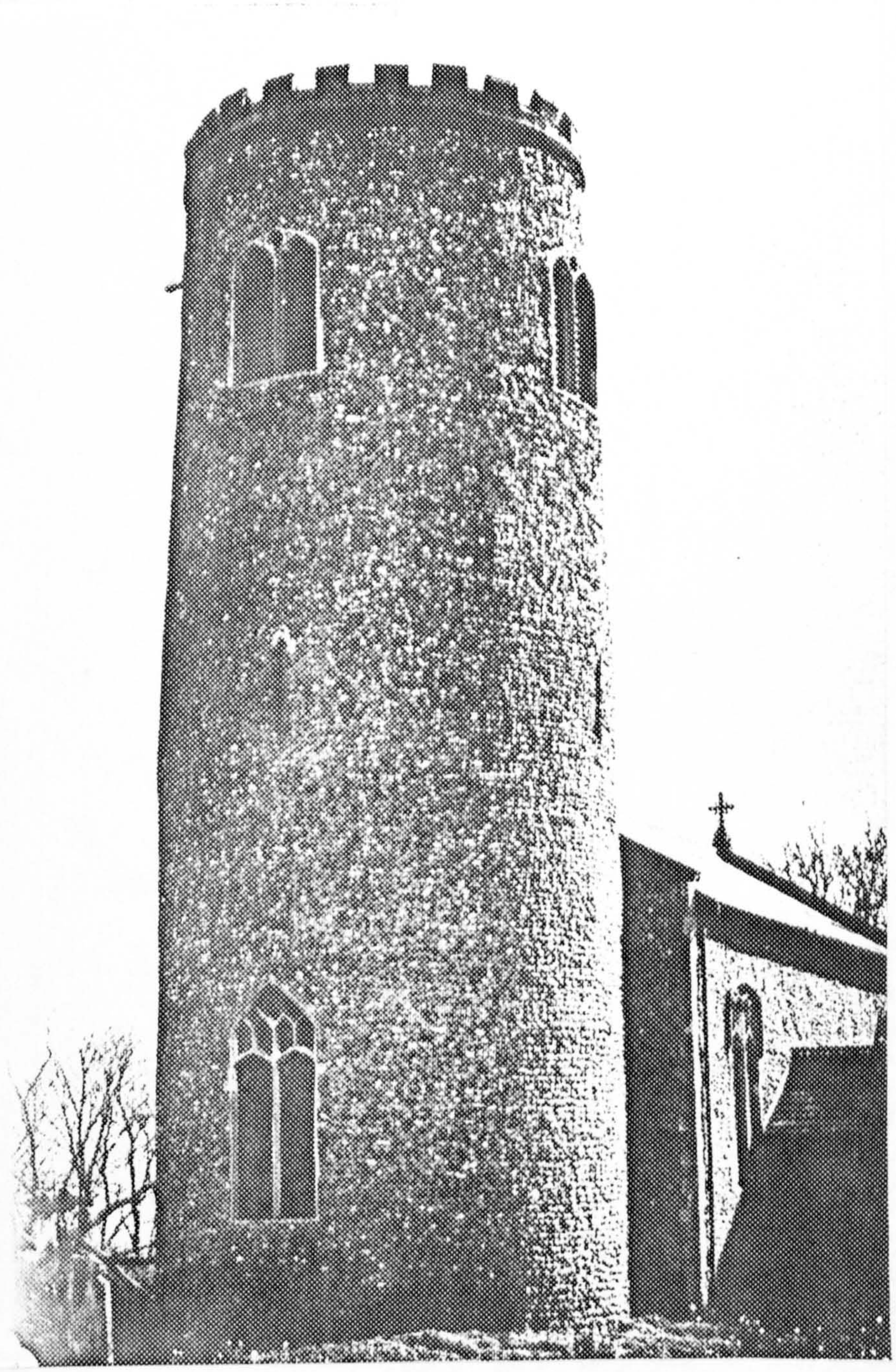
3. C & G MEARS FOUNDERS LONDON
   C N ROLFE CLK. RECTOR
   F W IRBY R CLAXTON CHURCHWARDENS 1853.

The 1552 Inventory records bells of 3 cwt, 4 cwt and 6 cwt, also a 'Gabrell' weighing 10 lbs and a 'Sacry bell' weighing 4 lbs. 1 and 2 of the present ring are by William Brend of Norwich, and the bells are hung for swing-chiming in a metal frame.

1. See diagrams A and B, p. 122, and compare with those at p. 873 in H. M. Taylor and J. Taylor, *Anglo-Saxon Architecture*, Cambridge, 1976, where a similar window is labelled as Anglo-Saxon.
2. See diagrams C and D, p. 123.
3. Taylor & Taylor, *Op. cit.*, p. 448.
4. C&C.

MORNINGTHORPE

April, 1979.



Round Anglo-Saxon tower increased in height in two phases, the latest in c. 1504.

MORNINGTHORPE, NORFOLK. St John Baptist. 5 January 1981.

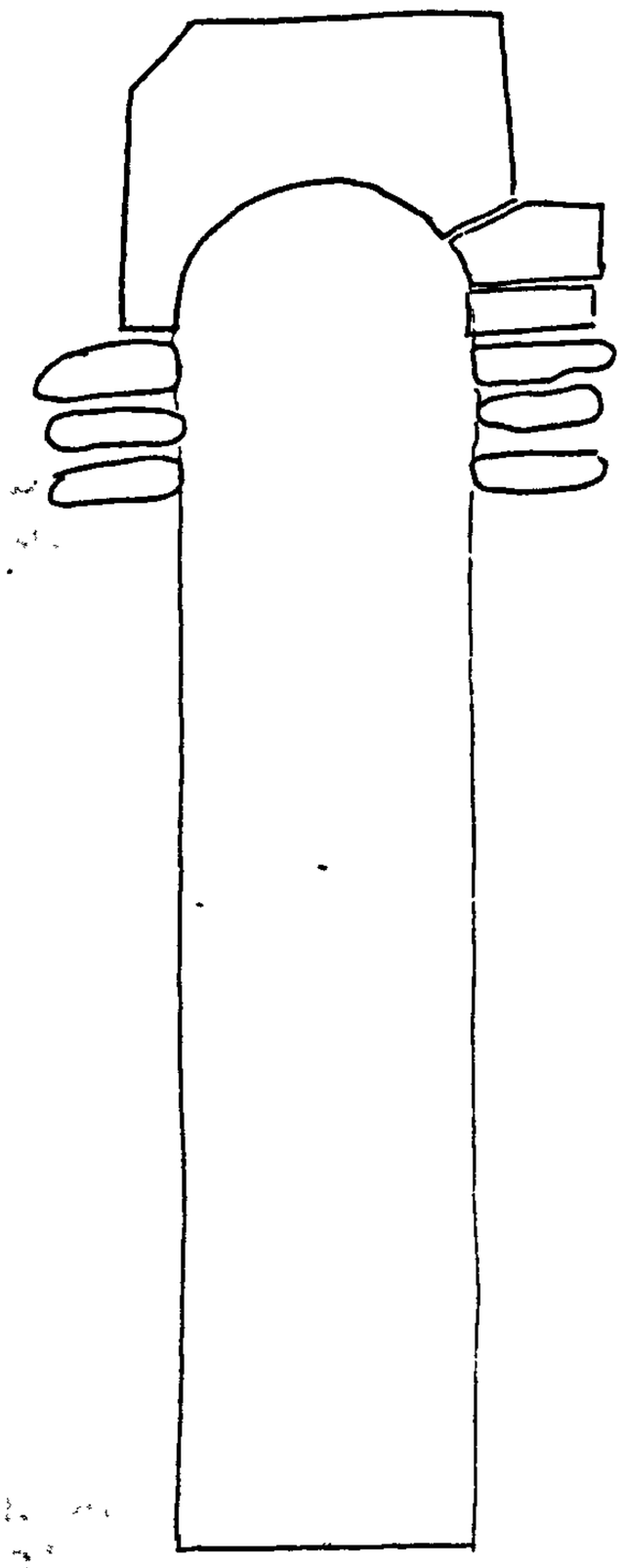


Diagram A

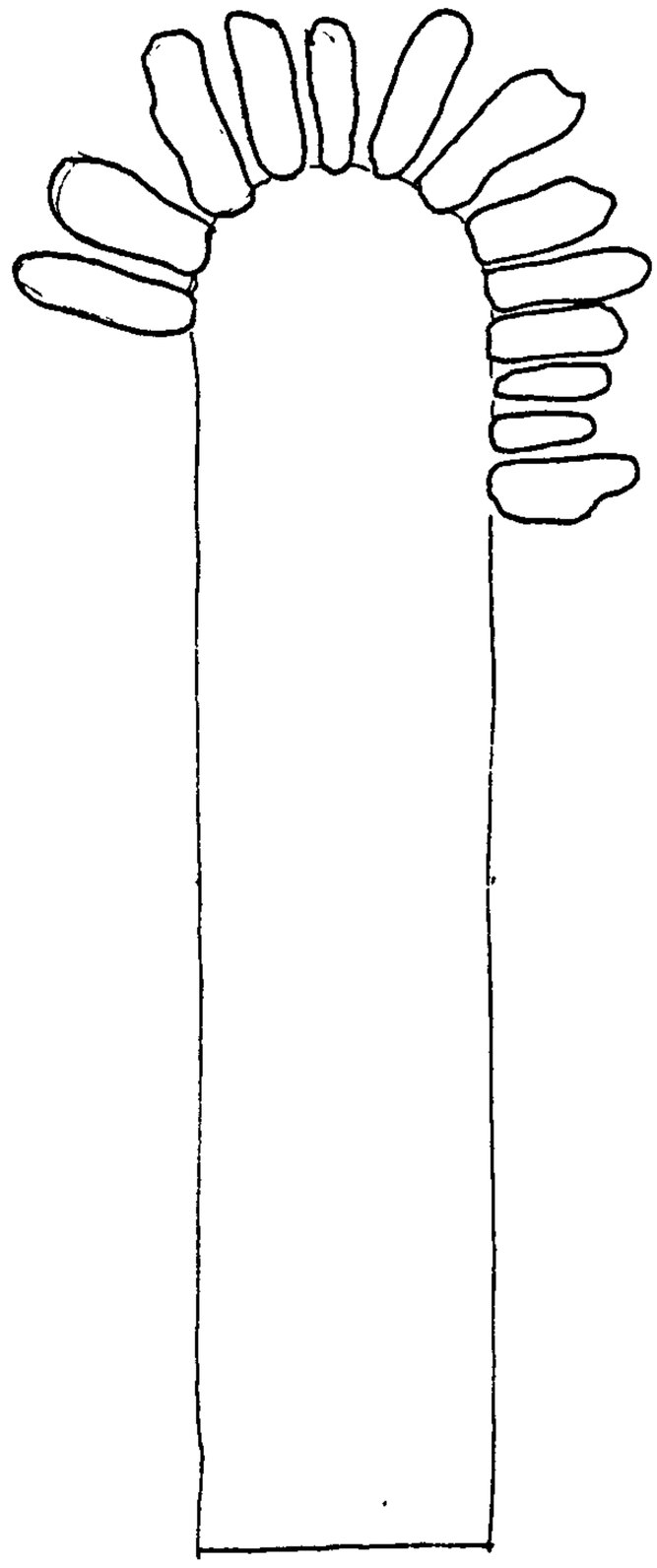


Diagram B

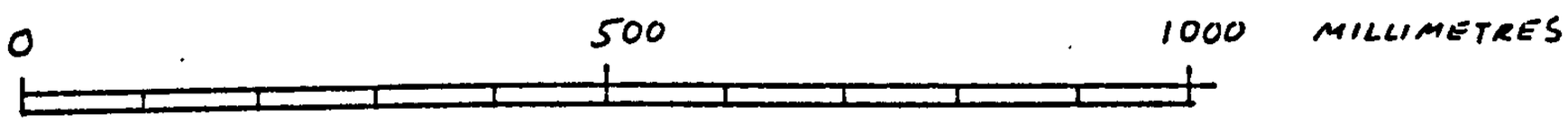


Diagram A: The western opening at first floor level viewed from outside the tower.

Diagram B: The southern opening at first floor level viewed from inside the tower.

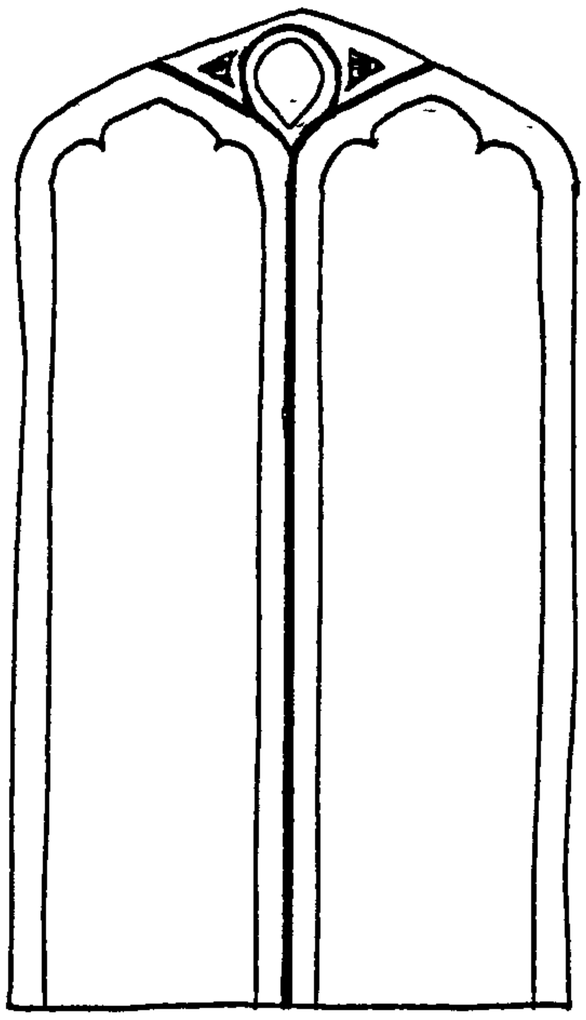


Diagram C: Tracery of belfry window.

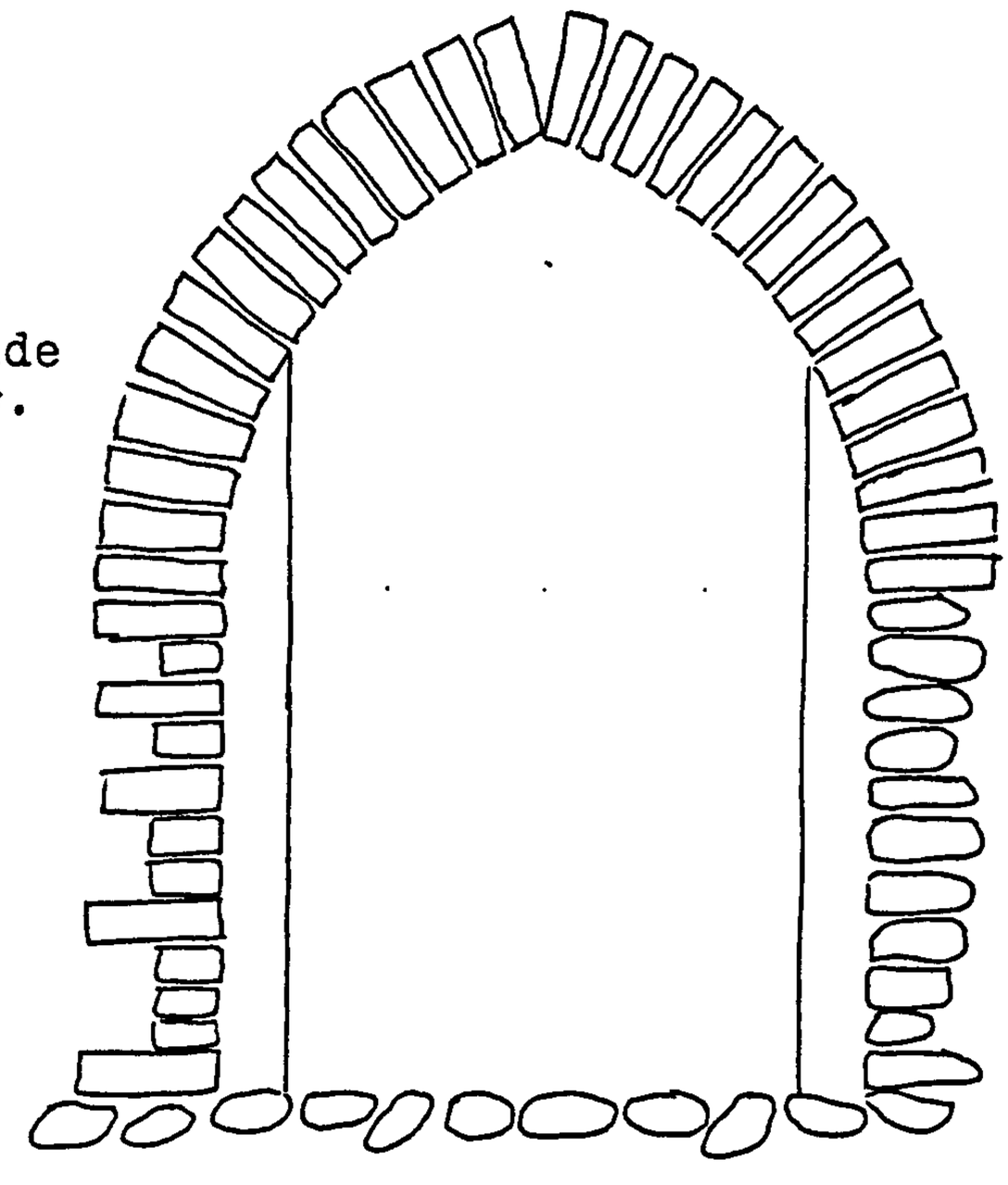
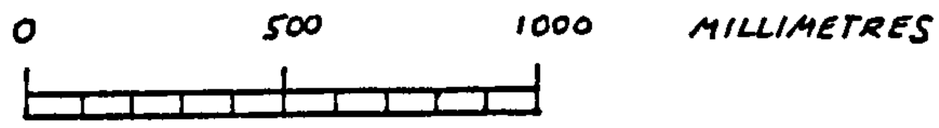


Diagram D: Inside of belfry window.



GREAT MOULTON, St Michael and All Angels. August 1983.

The small square tower, of flint with brick dressings, incorporates the remains of an earlier round tower in its eastern section. The round-headed tower arch appears to be Norman, and the limestone details of the west window suggest that it may have been modified at the time of the Victorian restoration of the church.

It would appear from a Faculty petition in 1762[1] that the tower had fallen about 15 years previously and had not been rebuilt: permission was given for the sale of four bells and the lead from the tower roof, the proceeds to be applied to the construction of a shed in which to hang the remaining bell. The churchwardens' accounts, covering the period 1735 - 1859[2], record regular payments to the ringers up to 5th November 1748, and in October 1749 money was spent in putting up boards in the tower, suggesting that it had recently fallen. In 1762 there is a record of the sale of the bells as follows:

> 'Recaived of Mr Ward for Nineteen Hundred and one Quatr. of Ould and demedged Bells at three pounds fifteen shillings the Hundred £72-03-00'.

A total sum of £92-13-08 3/4 was expended in 1762 on repairs to the church and in constructing a 'shead' in which to hang the remaining bell. Since no further major expense appears in the accounts it would appear that the present tower, which barely rises above the pitch of the nave roof, is the 'shead' constructed in 1762: Ladbroke's lithograph[3] of the church shows a tower closely resembling that which exists at present.

The single bell has a diameter of 30 3/4 inches (780 mm), weighing approximately 6 cwt.

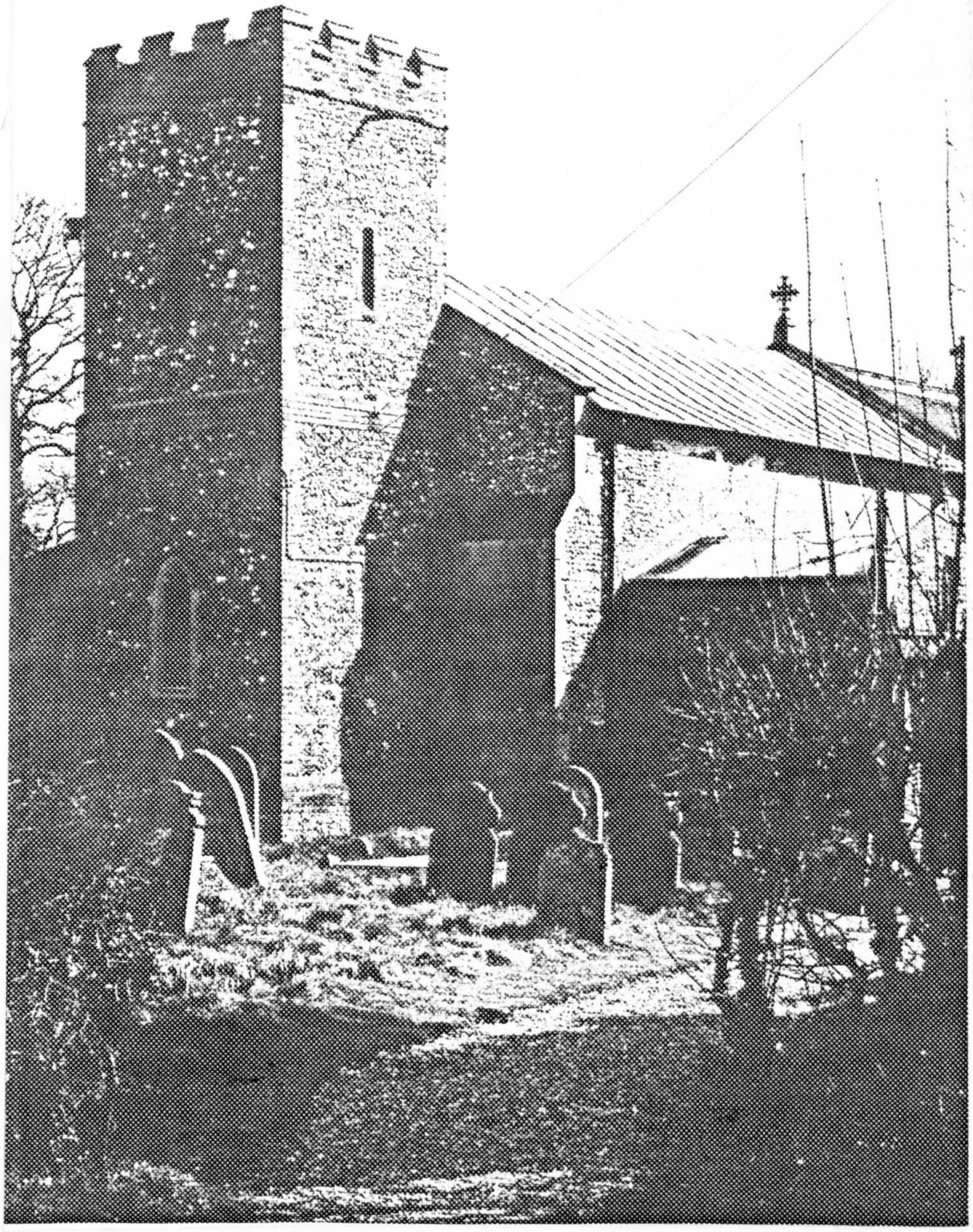
1. ANNO DOMINI 1634

The 1552 Inventory records bells of 6 cwt, 7 cwt, 9 cwt and 10 cwt. The existing bell, which is the work of William Brend of Norwich, hangs in a timber frame which probably dates from 1762 and consists of long frame-heads, supported by inclined braces and corner-posts.

1. NRO., NDR., FCB. III, fo. 149.
2. Seen at the church.
3. Ladbroke.

GREAT MOULTON

April, 1984.



Tower of 1762.

SHELTON, St Mary the Virgin. November 1981.

The external appearance of the square west tower suggests that it was built in two phases. The lowest section of about 20 ft (6.5 m) is built of flint rubble which includes a high proportion of broken flint, and the upper 30 ft or so, of much darker appearance, is built of rather smaller flints with less broken stone. The construction of the buttresses also corresponds to the two phases of the tower walls: the lower parts have very neat chequered flushwork, but the upper parts are very much less sophisticated. Brick is visible above the level of the first floor inside the tower, where it appears in the construction of the doorway from the vice and in the internal details of all window openings. The west window to the ground-floor chamber is of two lights beneath a two-centred arch with a heavy hood-mould, and has voussoirs alternately of flint and limestone. The sound-windows have two-centred segmental heads and the stubs of vanished 'Y' tracery: the external voussoirs are alternately of flint and brick, and the east sound-window has been completely bricked up to take the ridge-piece of the nave roof. The parapet of the tower is entirely of brick, similar to that used in the construction of the church.

The tower must have reached its present height (with the possible exception of the parapet) before the nave was roofed, and it seems unlikely that the design of the tower, if were of the same date as the nave which was hallowed in c. 1504[1], would have allowed the obstruction of the east sound-window. It therefore seems most probable that the lower part of the tower may be dated by a bequest in 1387[2], and that the upper stage may have been added at about the time of a bequest in 1460[3].

There is a single bell, diameter 27 inches (685 mm) weighing approximately 3 1/2 cwt.

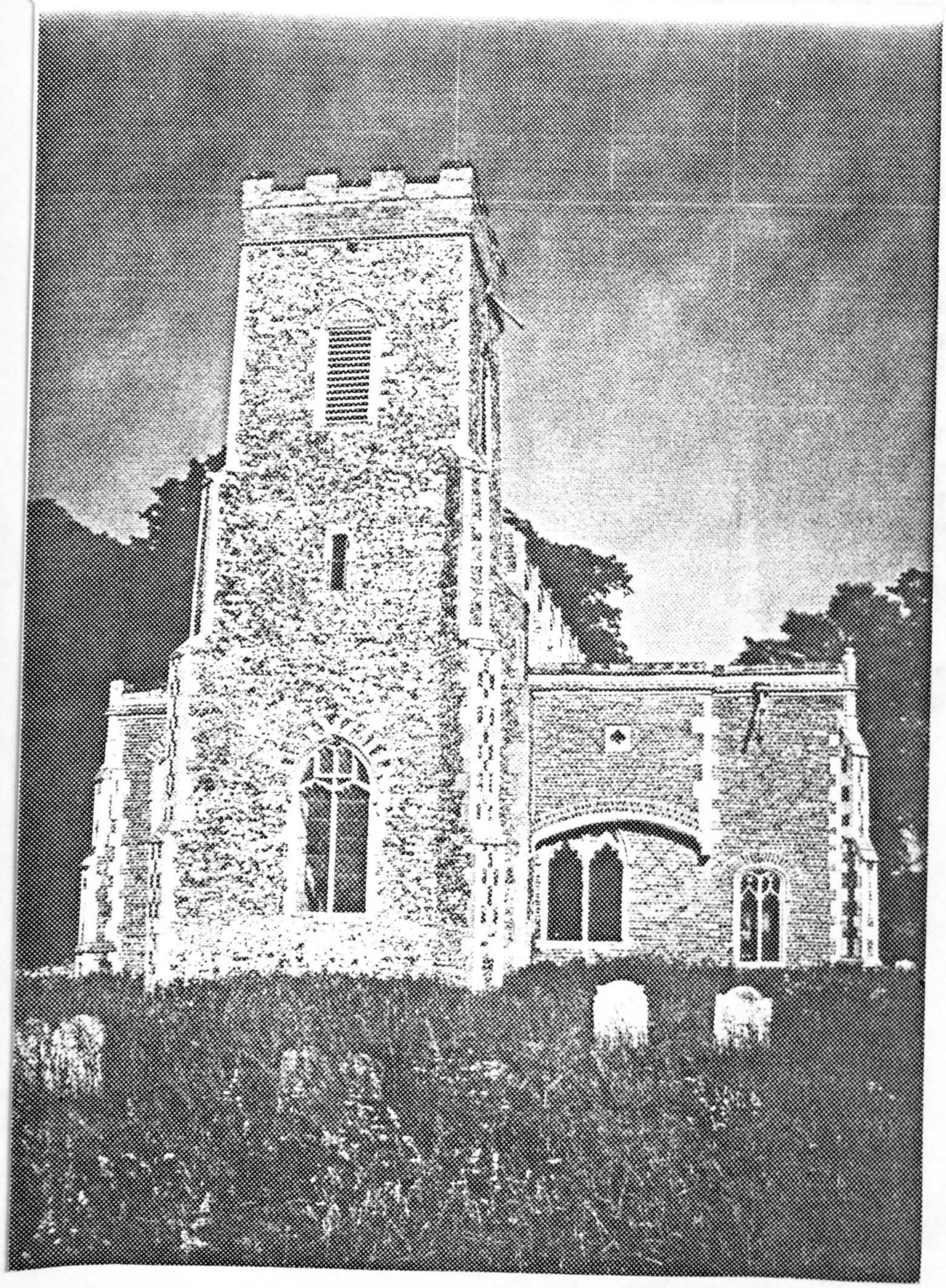
1. Uninscribed.

The appearance of the bell is very similar to that of the former second bell at Tharston which was known to have been cast by Samuel Gilpin of Norwich in 1699[4]. An entry in the Shelton churchwardens'

1. C&C.
2. C&C.
3. C&C.
4. See note on Tharston, p. 141.

SHELTON

April, 1979.



Tower built in two phases, c. 1387 and c. 1460.

accounts[1] in 1683 records the recasting of the single bell, and it seems very likely that the Shelton bell is of that date, and is the work of Samuel Gilpin. The 1552 Inventory records a single bell of 4 cwt.

There was a bequest to a new bell-frame in 1545[2] as follows:

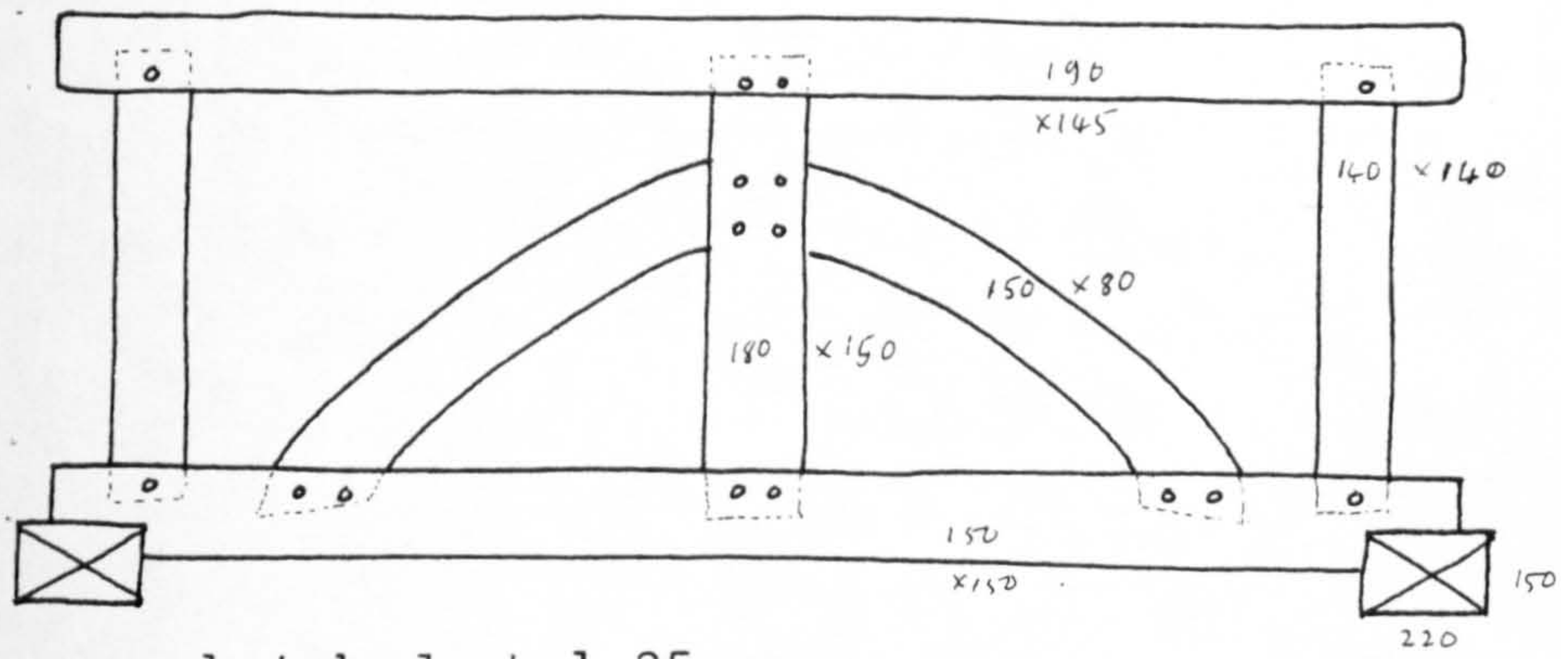
> 'I give and bequeth to the makinge of the belle frame in Shelton xl s. to be payed vj s. viij d. by yeare and to begin to paye the same viij yeares from the date of the present making. And yf the it fortune that the seid belle frame be not made by that tyme then I will that the seid xl s. shal be bestowed in some other charitable deades'.

If a new bell-frame was, indeed, constructed in c. 1545, it lasted for only 140 years or so, since there seems to be every reason to suggest that the existing bell-frame is that new bell-frame which was constructed at the same time as the bell was recast in 1683[3].

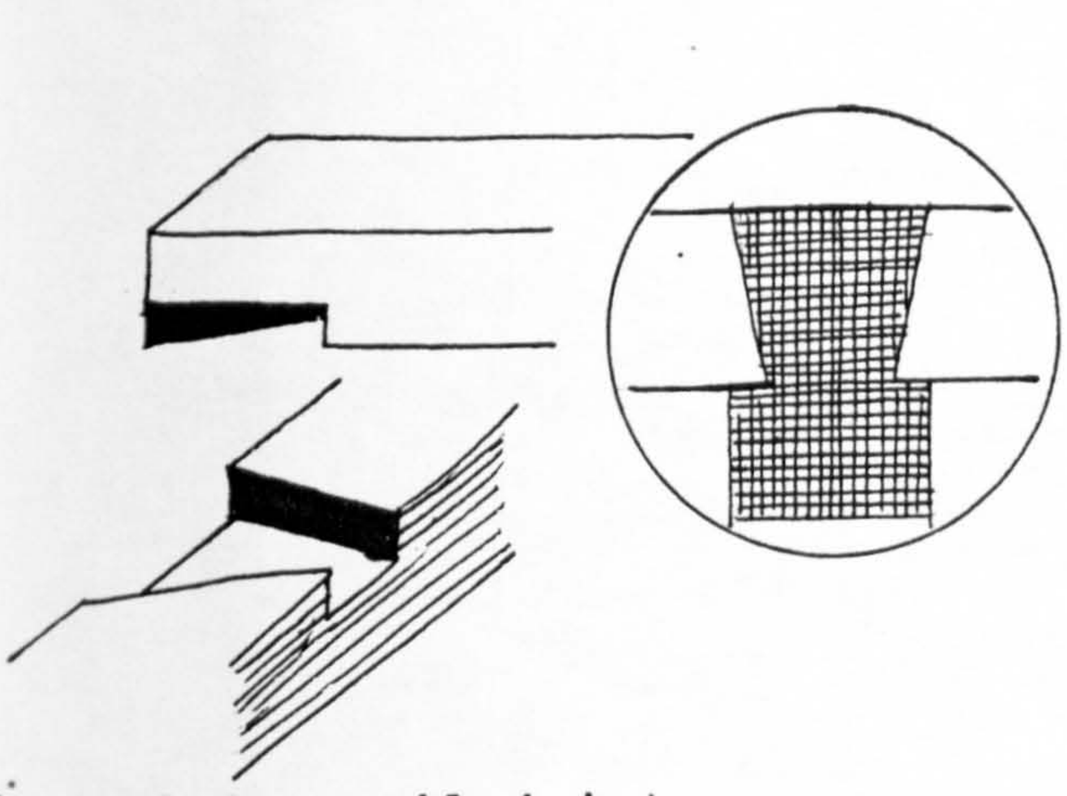
The frame has a pair of foundation beams which span the tower in a north-south direction and which are lap-dovetailed into a pair of wall-plates, resting on off-sets along the north and south walls of the bell-chamber. The trusses consist of long frame-heads supported by braced king-posts and end-posts[4]. The clearance of the frame is exactly correct for the bell, and it appears that the complete installation of 1683 survives.

1. Churchwardens' accounts, NRO., PD 358/83.
2. C&C.
3. See note 1.
4. See diagram, p. 129.

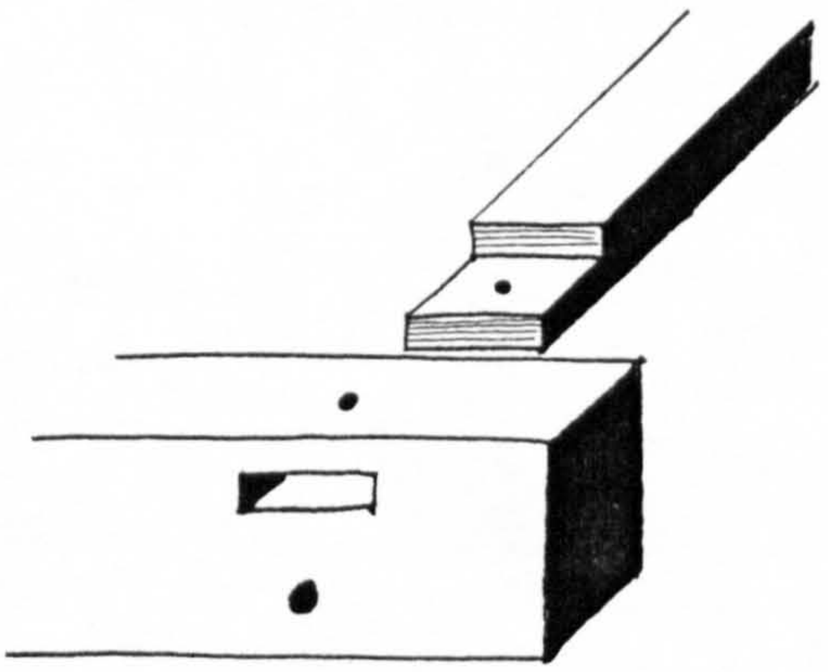
Frame for single date 1683.

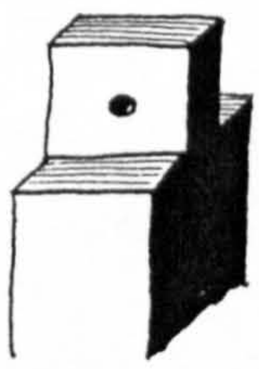


Frame truss sketched at 1:25 approx.

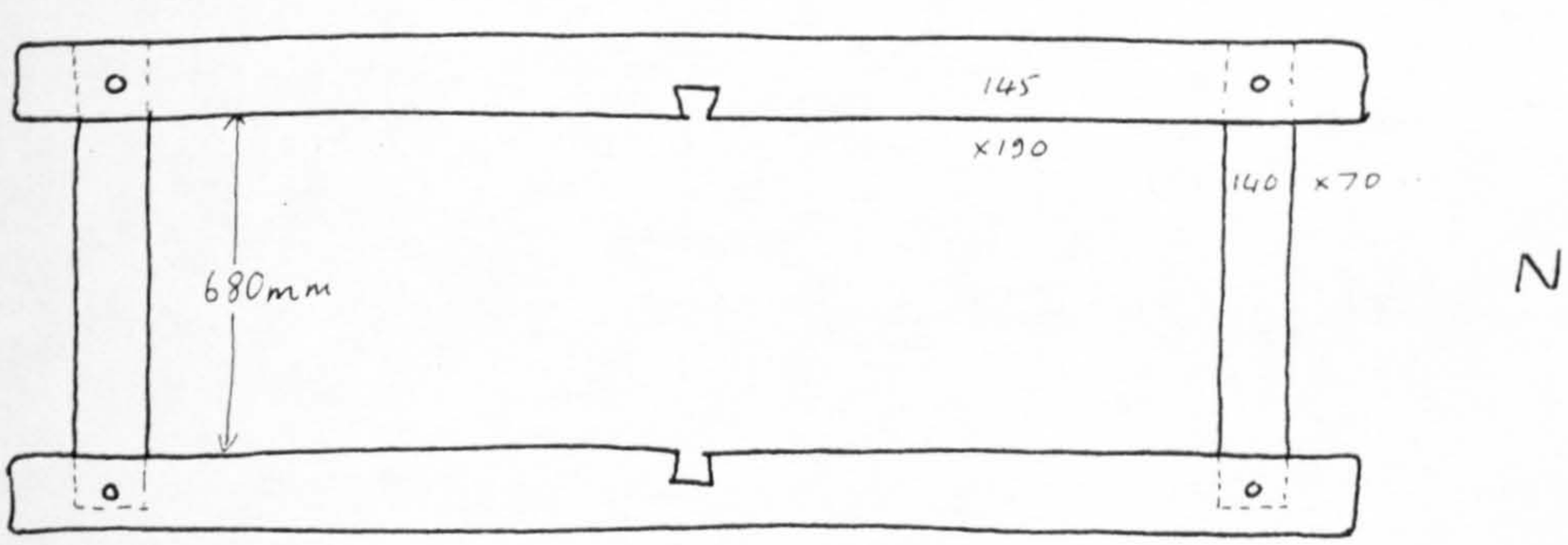


Lapped dovetail joint between wall-plate and frame foundation.





Jointing of frame-head, corner post and top cill.



Plan of frame sketched at 1:25.

Dated by reference to Shelton Churchwardens' Accounts.

STRATTON ST. MARY, St Mary the Virgin. January 1978.

Otherwise LONG STRATTON

The round west tower is constructed entirely of flint with few features to give an indication of a possible date. The arch to the nave is wide, with a semi-circular head, and the window to the ground-floor chamber is of two lights with a reticulation motif in the head. At the level of the first-floor chamber, there are blocked openings to the east and west: that to the west appears to have been a small window which is now buried beneath the external clock face, while that to the east appears to have been a doorway. The bell-chamber, at the level of the second-floor chamber, is defined externally by an off-set, and has four single-light sound-windows, with cinquefoil heads, whose external details are of limestone. The tower is completed by an embattled limestone parapet and a short recessed spirelet. In the absence of any documentary evidence, and judging by the style of the tower, it seems reasonable to accept the dating given in the church guide-book[1] as Norman with early 14th-century additions and insertions.

The bells are a ring of six, tenor diameter 38 inches (965 mm) weighing 10 cwt 0 qr 10 lbs and sounding G sharp[2].

1. MEARS & STAINBANK FOUNDERS LONDON
   TO THE GLORY OF GOD THIS PEAL WAS REHUNG
   AND THIS BELL ADDED A.D. 1904
   G. D. BARRY RECTOR
   D. ALEXANDER J. W. WELLER CHURCHWARDENS

2. IOHN SOLEY RECTOR 1701 T N

3. IOHN KYBIRD & GILES MIDDLEDITCH C.WARDENS 1734 T N

4. + IEGU : ENLEHON : DE : TOI :
   SIRE : ION : STVRMIN : FIT : FERE : MOI
   THOMAS MADE ME :

5. IOHN BREND MADE ME 1652

6. T. OSBORN FECIT 1789
   REVD. CHARLES CARVER RECTOR
   RICHD. HOTSON ISAAC WEBSTER CH. WARDN.

There is also a small bell (formerly used as a clock bell, and now in a display case in the nave of the church) inscribed:

0. + SANCTA CATERINA.

1. C. Carus, *The Architecture of St Mary's Church, Long Stratton*, Long Stratton, 1975.
2. NDA.

There were bequests to the bells in 1460 and 1462[1], and the 1552 Inventory records bells of 7 cwt, 9 cwt, 11 cwt and 14 cwt. 2 and 3 were both cast by Thomas Newman of Norwich in 1734, in which year the churchwardens' accounts show that the tenor bell of a ring of four was taken down and the two small bells were cast from part of the metal[2]. The date 1701 on the second bell refers to the date of institution af John Soley as Rector of Stratton St. Mary rather than the more usual date of casting the bell. Blomefield[3] gives the inscription on the bell recast in 1734 as:

Nos Societ Sanctis semper Nicolaus in altis.

4 can almost certainly be dated to the first half of the 14th century by a charter of 1327 which mentions the name of the donor, John Sturmyn[4]. The design of the bell, especially that of the cannons and moulding wires, suggests that the bell was cast by Thomas Belleyetere of King's Lynn[5].

The increase of the bells from four to five by the removal of the tenor and the addition of two trebles would have changed the character of the tuning of the ring, and it appears that the churchwardens were sufficiently dissatisfied with the sound of the bells to employ a tuner in 1743[6]:

'Paid Mr Collett for tuneing the bells £2-00-00'.

His work seems to have included hacking away of the lip of the 14th-century bell (the 3rd of the ring of five as it existed in 1743) to sharpen the note.

The small bell (No.0) has lettering and founders' marks which suggest that it was cast in Norwich by Austen Bracker, who was active there and in other places in the 1550's[7]. The absence of the small bell from the 1552 Inventory, and the nature of the inscription, suggests that the bell may have been cast during Mary's reign[8] when the dedication to St Catherine would not have given offence.

The bells hang in a metal frame for six, which dates from the restoration of 1904[9].

1. 1460 Robert Turner of Stratton. NFK Grey 29.
   1462 Henry Johnson of Stratton. NFK Grey 73.
2. NRO. PD 122/33. 3. Blomefield V, 194.
4. Blomefield V, 193. 5. See p. 396.
6. NRO. PD 122/33. 7. See p. 407.
8. A local return to former ways during Mary's reign is clear from the churchwardens' accounts at Bunwell, who reinstated their stone altar in 1553 (see accounts in the church chest at Bunwell): the dedication of a bell to a saint would have been very likely as a return to a pre-Reformation custom. There is also a precedent for an association with St Catherine at Long Stratton, where a will of 1539 (1539 Thomas Kinge of Stratton. NFK Gillior 190) directs as follows: 'lego et volo that Elen my wife do syng a trentall in the cherche of Our Lady of Stratton at the auter of St Katherine'.
9. See inscription on 1/6, p. 130.

STRATTON ST. MICHAEL, St Michael and All Angels. 26 November 1983.

The square west tower, which reaches to a height just greater than that of the nave roof, is the remaining part of a tower which was formerly much higher: it is constructed of flint rubble and faced with knapped flint interspersed with fragments of limestone. There are no buttresses, and the quoins are of limestone. There was formerly a vice, of which the lower doorway remains in the ground-floor tower chamber and the upper doorway in the first-floor chamber: a conspicuous straight joint in the external facing of the tower, and masonry features on the west wall of the nave, show its former position. The west window is of two lights, with a finely traceried head showing a large reticulation motif.

Inside the west and south walls of the first-floor chamber of the tower are the remains of former windows whose details, in common with those of the doorway to the former vice, are of brick. Large, old cracks in the tower fabric are clearly visible, and there is an apparently 18th-century set of ties connecting the four walls of the tower.

The date suggested by a bequest to the 'new' tower in 1485[1] is consistent with the design and materials of the remaining section, and the reduction in the height of the tower is indicated by a faculty petition in 1766[2] which stated that:

> 'the steeple or tower is very old and decayed cracked and Bulged out in many places and in great danger of falling.'

Between 20 and 30 feet of masonry needed to be dismantled, and two bells, weighing 4 cwt and 5 cwt, had already been taken down to prevent their falling: the remainder of the tower needed to be hooped and secured with an iron anchor. Permission was given to sell the bells and apply the proceeds to shortening and securing the tower, and buying a new small bell.

The bell, which hangs in a small louvred timber cupola above the level of the tower roof, has a diameter of 16 inches (410 mm) and weighs approximately 3/4 cwt.

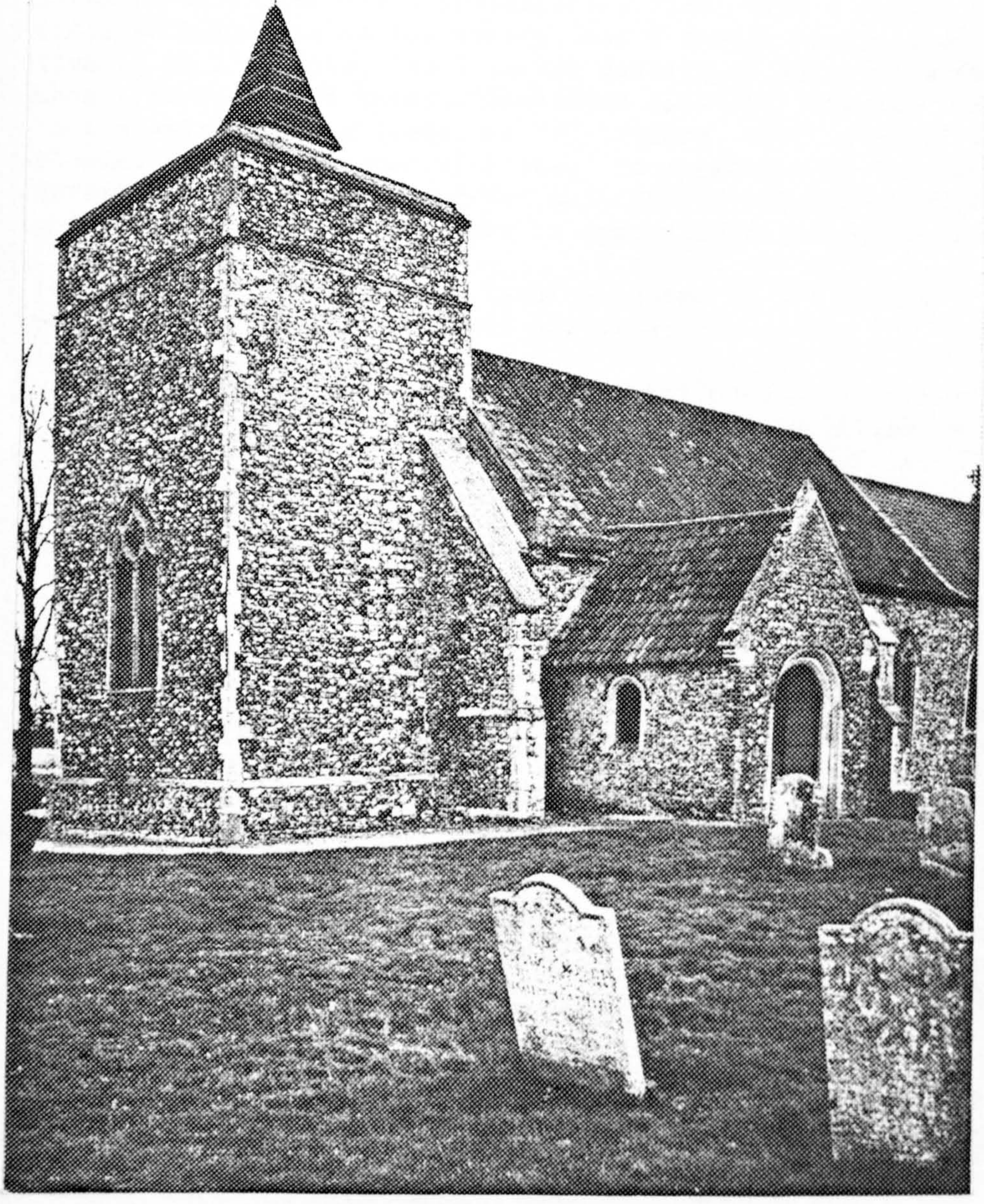
1. 1766

The 1552 Inventory records three bells whose total weight was 16 cwt, and the ring of three bells was reduced to two in 1704[3] when there was a Faculty to sell one of the bells, which was spilt and had been useless for many years, and apply the proceeds to repair the church. The date on the existing bell is in numerals which suggest that it was cast by the Whitechapel bell-foundry when the two remaining large bells were sold in 1766[4].

1. C&C.
2. NRO., NDR., FCB. 1, fo. 486.
3. NRO., NDR., FCB. 4, fo. 33.
4. See above.

STRATTON ST.MICHAEL.

April, 1984.



Lower part of tower built in c. 1485.

TACOLNESTONE, All Saints. December 1983.

The square west tower, constructed of flint with external dressings of limestone, has diagonal buttresses at the north-west and south-west corners. The upper part of the tower batters considerably, and there is a chequered limestone parapet. There is now no west doorway, but a recess in the ground-floor chamber suggests that there might formerly have been one. The simple tower arch is thickly coated with plaster, and the appearance of the stonework of the three-light west window suggests a comparatively recent date. The first-floor chamber, which retains a contemporary floor with a neatly formed circular bell-hole in the centre, has a single rectangular window opening to the south, the internal details of which show that it has been altered from a triangular-headed opening. The four sound-windows have simple uncusped limestone 'Y' tracery, with internal details showing considerable use of brick. It appears from the constructional details that a small, low tower was recased and increased in height, and a likely date for the work is suggested by a bequest in 1462[1].

There is ring of six bells, tenor diameter 35 3/4 inches (910 mm), weighing 8 cwt 1 qr 10 lbs and sounding A[2].

1. TE DEUM LAUDAMUS : TE DOMINUM CONFITEMUR
   RECAST 1982 FOR TACOLNESTONE FROM BELLS DATED 1671 & 1728
   FORMERLY AT ST PETER PARMENTERGATE, NORWICH.
   H. B. L. BRIERLY M.A. RECTOR
   H. J. SPRATT)
   K. M. PINCHEN) CHURCHWARDENS

2. THOS. OSBORN FECIT DOWNHAM NORFOLK 1799

3. THOMAS OSBORN FOUNDER DOWNHAM NORFOLK 1799

4. T. OSBORN

5. + Virginis Egregie * Vocor Campana Marie

6. THO NEWMAN MADE ME
   EDWARD KING & ISAAC BUTLER C.W. 1728

There is also a service bell:

0. Ric'us Brasyer Fecit Me.

1. C&C.
2. Letter from Taylors' of Loughborough.

5 and 0 were probably cast by Richard Brasyer II at the pre-Reformation Norwich bell-foundry[1], and 1 has the foundry mark of Taylor of Loughborough.

Before 1982[2], there was a ring of five as follows:

1. Present No. 2
2. Present No. 3
3. Present No. 4
4. Anno Domini 1618
5. THOMAS NEWMAN OF NORWICH CAST ME NEW IN 1732

The 1552 Inventory records bells of 5 cwt, 7 cwt, 8 cwt and 12 cwt, none of which survived, and 4 was by William Brend of Norwich. The tenor of the ring had a diameter of 37 inches (940 mm), weighing approximately 9 cwt and sounding A flat.

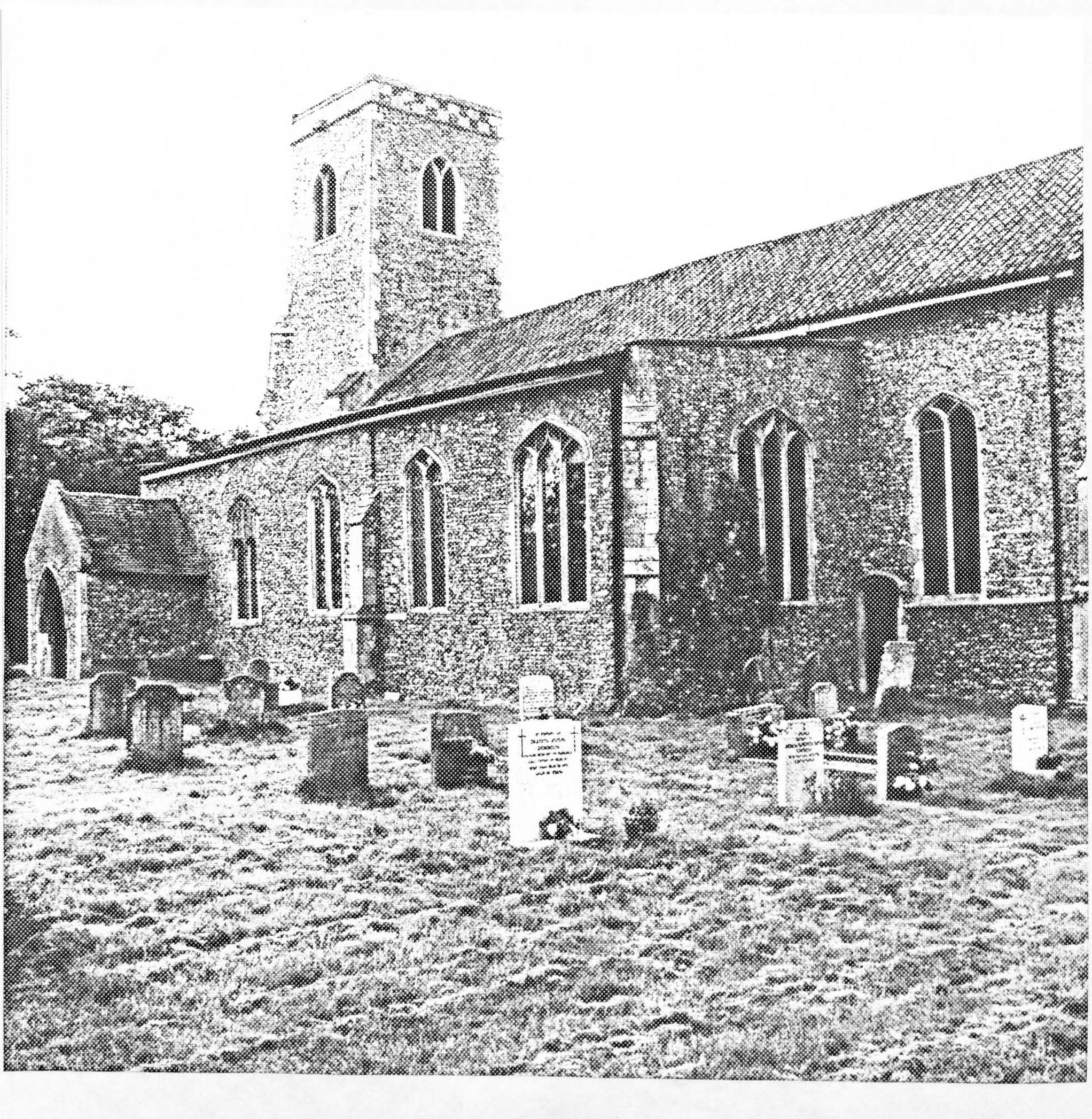
In 1981 the old ring of five bells was removed from the tower to the bell-foundry for restoration, where it was found that the fourth bell was badly cracked. The ring of five bells from the redundant church of St. Peter Parmentergate, Norwich was made available for transfer to Tacolnestone, and the newly formed ring of six consists of three of the old Tacolnestone bells, two of the Norwich bells, and a new bell cast from old metal. The service bell is also one of the old Norwich ring of five. The old Tacolnestone 4 and 5 were sold to the bell-foundry as scrap metal to help offset the cost of the restoration[3].

The bells are hung in a timber frame, installed when the tower was restored in 1950[4]. At the time of the work there was insufficient money to rehang all five of the bells on the new frame, and only the treble was rehung for swing-chiming.

1. See pp. 431, 433.
2. Inspected in 1976.
3. The scheme was proposed by the writer.
4. NRO., PD 148/21.

TACOLNESTONE

April, 1984.



Square tower, probably remodelled in c. 1462.

TASBURGH, St Mary the Virgin. April 1983.

The round west tower appears to be contemporary with the west wall of a narrower nave[1], whose surviving quoins consist solely of very large flints. The two lower stages of the tower, totalling about 40 ft (13.5 m), are constructed entirely of neatly graded and laid flint nodules, and the original arch to the nave, measures 17 ft (5.6 m) from the crown of the arch to the church floor. The remarkably tall opening to the nave has been partly filled to leave a low doorway beneath a brick, two-centred retaining arch. All the arched openings (including a west window to the ground-floor chamber, three narrow windows to the first-floor chamber, and a doorway at the level of the first floor through to the nave) are constructed without the use of dressed stone or tile: the jambs and voussoirs are of carefully selected flint, and the soffits of the arches are of very hard mortar set over a timber centering. The only use of dressed stone in the lower part of the tower is in the pair of shallow imposts to the nave arch. The tower is decorated externally by a series of shallow arcades at the level of the first-floor chamber, and by the remains of a second series above them. The flintwork of the round bell-chamber, which adds a further 15 ft (5 m) to the height of the tower and is of different construction to the lower stages of the tower, is not as neatly laid as that lower down, consisting of smaller material with a higher proportion of broken flints. The sound-windows are narrow lancets whose external jambs are of brick, but whose heads and drip-mouldings are of limestone: the openings have been much cut away on the inside of the tower to accomodate various bell-frames, but there appears never to have been any material other than flint used for the internal jambs and voussoirs. The tower is completed by a simple limestone coping. It is suggested that a later belfry stage was added to an Anglo-Saxon tower, and the most likely time would correspond with a bequest in 1385[2].

The bells are a ring of five, tenor diameter 38 inches (965 mm) weighing 9 cwt 1 qr 17 lb and sounding G[3].

1. J TAYLOR & CO LOUGHBOROUGH LEICESTERSHIRE A. D. 1900
   PHILIP BERNEY FICKLIN, WILLIAM LANT DUFFIELD, CHURCHWARDENS
   WALTER ROBERT HURD, RECTOR

2. ANNO DOMINI 1631

3. ANNO DOMINI 1613 W

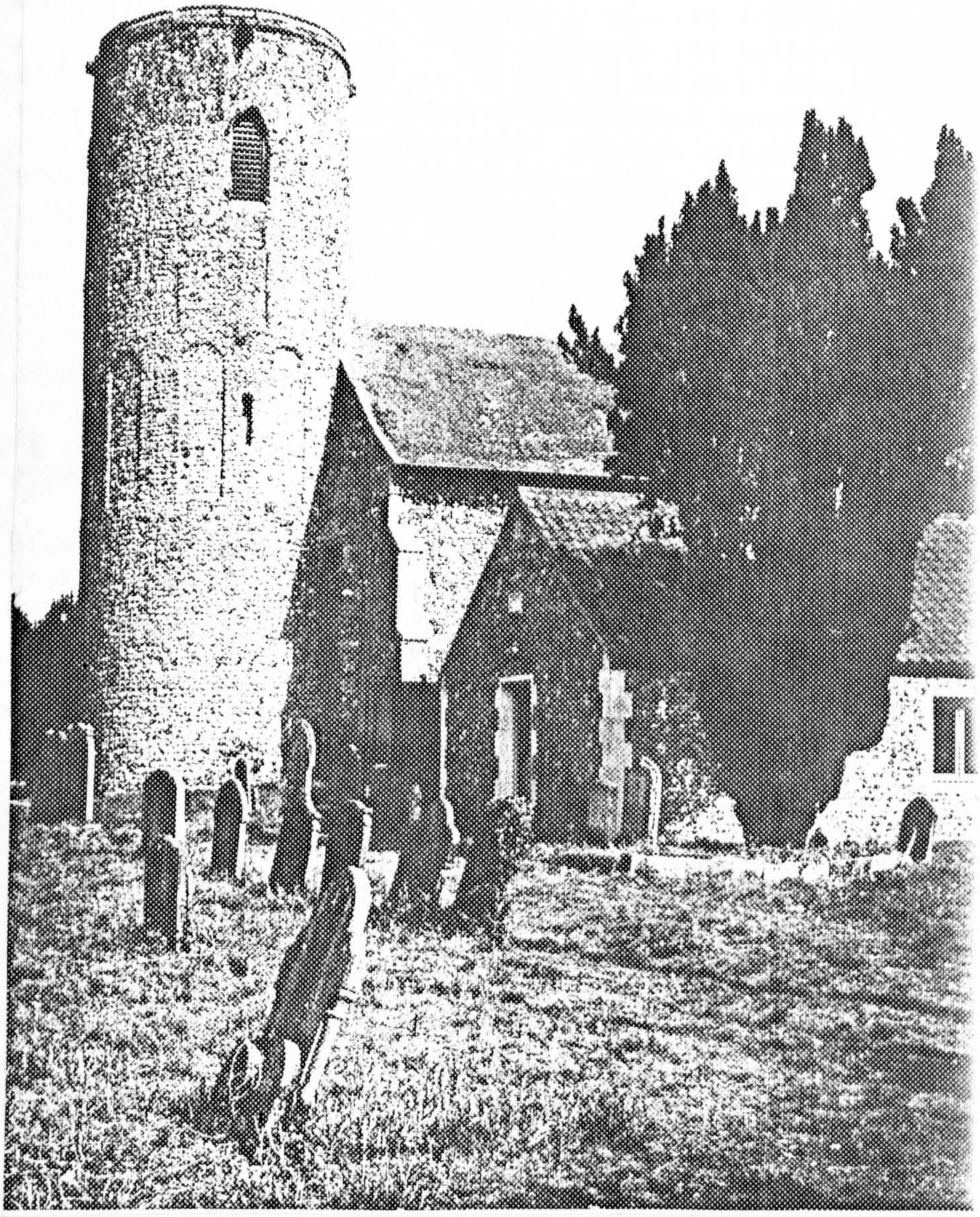
4. A'O D'O 1593 T B

5. Anno Domini 1614
   RECAST 1900
   P.B.F., W.L.D., CHURCHWARDENS
   W.R.H. RECTOR
   J.T. & Co. FOUNDERS

1. The nave was probably widened in c. 1445, when Thomas Bumpstead of Norwich left 40 shillings making good the walls of Tasburgh church. NCC Wylbey 29.
2. Taylor, p. 605, and C&C. 3. NDA.

TASBURGH

April 1984.



Round Anglo-Saxon tower with belfry, probably of c. 1385

There was a bequest to the bells in 1546[1], and the 1552 Inventory records bells of 4 cwt, 6 cwt and 8 cwt. 2, 3 and 4 are all by William Brend of Norwich, and the shield and initials of Thomas Baxter of Rainthorpe appear on No. 4[2]. The bells are a very fine sounding ring of five, and were rehung in a completely new framework of oak, made in Tasburgh by Mr. A. E. Fuller[3], in 1900.

THARSTON, St Mary the Virgin. From May 1976.

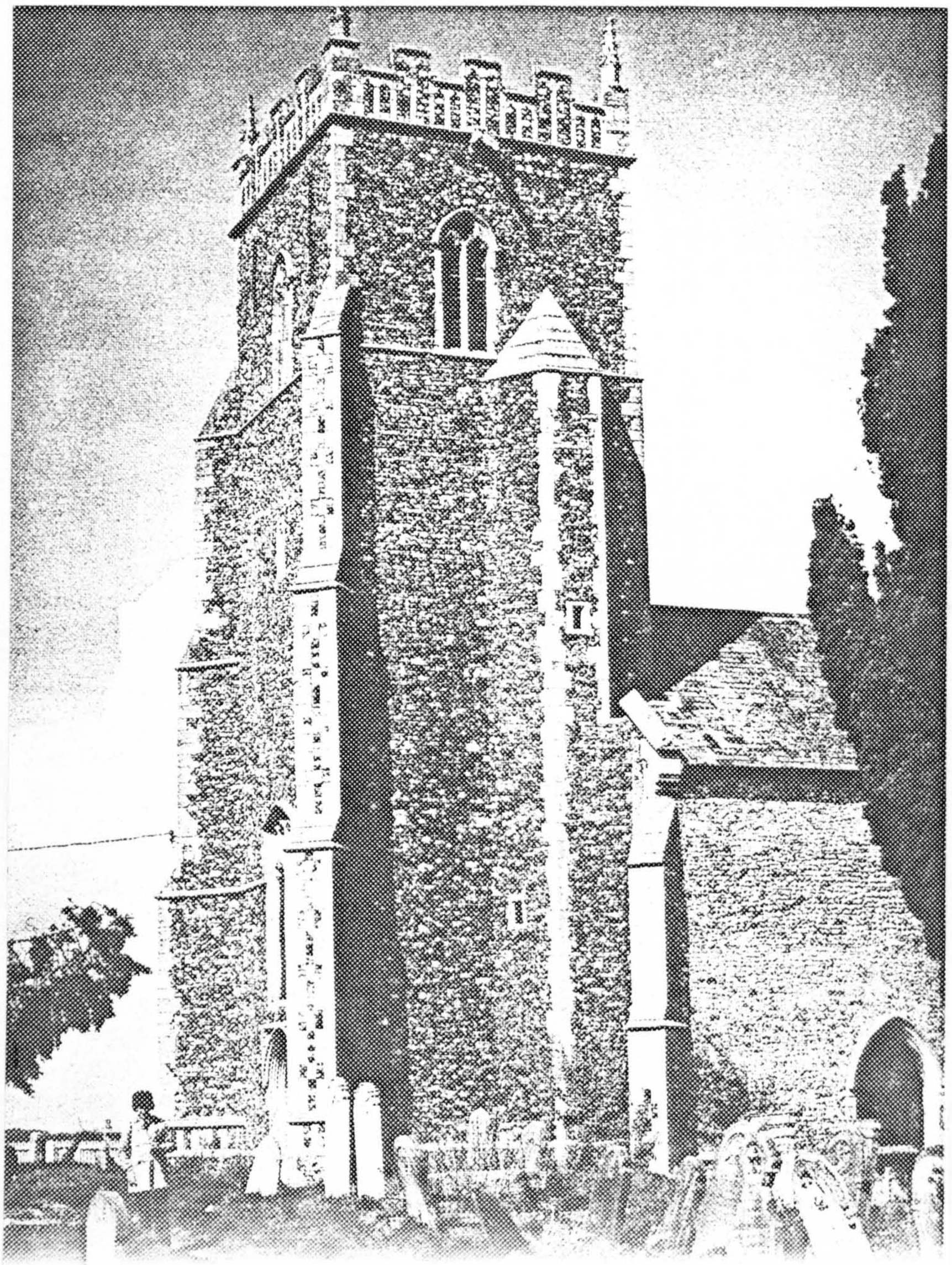
The uniform construction of the square west tower suggests that it was built in a single campaign. The walls are of broken flint mixed with fragments of limestone, and neatly squared limestone is used for the quoins of the tower above the level of the buttresses. Although the only external use of brick is in the heads of the put-log holes, extensive use is made of it inside of the tower for all visible jambs and soffits of arched openings. The two diagonal buttresses to the south-west and north-west are of uniform design having chequered flushwork faces and off-sets which diminish both the width and depth of the buttresses, and flushwork panelling appears on the parapet and base-course of the tower. The west doorway is set beneath a square label with large rosettes in the spandrils. The west window is of two lights beneath a two-centred segmental arch, and a small rectangular window lights the first-floor chamber; the four sound-windows are of two lights, beneath two-centred arches with simple quatrefoiled motifs at the heads. The tower is completed by four diagonally set pinnacles.

Plaster has recently been removed from the west wall of the church and from parts of the inside of the tower, thus enabling the junction between the church and tower to be examined. The north and south walls of the tower are built against the west wall of the nave without any form of bonding, and the spaces between the church wall and those of the tower are filled with a miscellaneous collection of bricks, tiles and other rubble; the east wall of the tower is supported partly by the west wall of the nave, and partly on a series of brick arches receding from the nave wall. It would appear that the west wall of the nave was roughly hacked back to form an opening, and that the latter was made good by applying brick responds and a false brick arch: the whole was then covered with a thick layer of moulded plaster to give the impression of a limestone arch.

1. 1546 Richard Boyton of Tasburgh. NCC Hyll 247.
2. His tomb, showing the same shield as appears on the bell, is on the south side of the chancel.
3. Information from Mr H. Duffield, nephew of Mr Fuller.

THARSTON

June, 1979.



Square tower of c. 1492.

From the evidence of bequests to the tower in 1492[1] and to the bells in 1505[2], it would appear that the tower was completed in the early years of the 16th century.

The bells are a ring of five, tenor diameter 38 3/4 inches (985 mm) weighing 10 cwt 0 qr 6 lbs and sounding G[3].

1. MEARS & STAINBANK, FOUNDERS, LONDON, 1907.
   DAY HUNG US.

2. CANTATE DOMINO CANTICUM NOVUM MDCCCCLXXVI
   H. C. BARNES,)
   H. T. S. DUFFIELD) CHURCHWARDENS
   T. O. W. GLASS VICAR.

3. MEARS & STAINBANK, LONDON, RECAST 1907.

4. (+) NOS (THOME) MERIT(IS MEREAMUR GAUDIA LUCIS)

5. MEARS & STAINBANK, LONDON, RECAST 1907.

There were two bequests for bells, one of them specifically to a new tenor bell, in 1505[4], and the 1552 Inventory records bells of 3 cwt, 5 cwt, 8 cwt and 10 cwt. The churchwardens' accounts for 1699 show that the smallest bell in the ring of four was recast by Samuel Gilpin of Norwich in that year, and an account in 1742 records that metal was run into the little bell[5]. When the uninscribed No. 2 bell was removed from the tower for recasting in 1976 it was found that porous parts of the crown had been filled with solder, and is very probable that before recasting the bell was that made in 1699[6]. In 1976 the second bell was recast by Taylors of Loughborough and all five bells were rehung[7] on a frame installed by Day of Eye in 1907[8].

1. L&L.
2. 1505 William Bret of Tharston. NCC Ryxe 276.
   1505 William Cooke of Tharston. NCC Ryxe 298.
3. NDA.
4. See note 2.
5. Seen at Tharston church.
6. L'Estrange records the inscriptions on a ring of four bells as follows:

   1. Uninscribed

   2. Anno Domini 1616 WB

   3. As on existing No. 4 bell

   4. + (Dona Rependе Pia * Rogo Magd)alen(a Maria).

   The bracketed portions of the inscriptions as recorded by L'Estrange had been mutilated.
7. The writer proposed the rehanging scheme.
8. Day.

TIBENHAM, All Saints. December 1978.

The square west tower has diagonal buttresses at the north-west and south-west corners, and single buttresses (at right angles to the north and south walls of the tower) at the north-east and south-east corners. It is uniformly constructed of flint rubble faced with knapped flint, having a flushwork base course of lozenges and a contrasting pattern of chequerwork on the faces of the buttresses. Brick is used for the internal details of the arched openings, but the external dressings, including the tower quoins and all details of the window openings and traceries, are of limestone. The four sound-windows are of two lights beneath two-centred segmental arches, and the much-repaired parapet has flushwork panelling with shield motifs. The symbols of the four evangelists appear at the corners of the tower in place of the usual pinnacles. A straight-joint in the base-course, and brick voussoirs showing the outline of an arch, indicate that there was formerly a west doorway, whose opening has been filled with flint rubble and faced with knapped flint[1]. The small three-light window with a square head which lights the space beneath the ringers' gallery has details of limestone, and appears to be of comparatively recent date. The ringers' gallery has a large window of three lights beneath a two-centred segmental head, and the first-floor chamber has small rectangular openings with cinquefoil heads.

The church, which is small in comparison with the tower, retains a number of features which suggest a possible Anglo-Saxon date for the nave: in particular the north wall has herringbone masonry in which a small double-splayed window and a pilaster buttress are formed without the use of limestone[2]. It would appear that when the tower was built the entire west wall of the nave was reconstructed as the east wall of the tower, and the junction between the tower walls and the nave shows that the tower was built before the nave clerestory. It is likely that the clerestory was built at the same time as the nave roof, and a bequest in 1470[3] to 'the emendation of the roof' may suggest an approximate date for the work.

The tower arch has simple chamfered shafts and a chamfered, two-centred arch. There is ringers' gallery at a level slightly below that of the cill of the west window and the framework supporting its east end has every appearance of being as old as the tower structure. The vise ascends as far as the bell-chamber, and the first-floor chamber of the tower is entered through a door which is very heavily bound with iron.

1. The door to the opening beneath the ringers' gallery appears to have been cut down from a very old door which formerly fitted a pointed-arched doorway: it is possible that it is the old west door.
2. Such features are considered to be Anglo-Saxon: see Taylor, Vol 3, *passim*.
3. C&C.

TIBENHAM

January, 1979.

Tower, probably complete by c. 1437.

In the absence of any specific bequests to the tower fabric, it would appear from the bequest to the roof that the tower was definitely finished by c. 1470[1]; and the date of a bequest to the bells in 1437[2] might well suggest that the tower was then newly completed.

The bells are considered to be the finest ring of six in Norfolk, tenor diameter 49 inches (1245 mm), weighing approximately 20 cwt and sounding E flat.

1. RECAST BY JOHN WARNER & SONS LONDON 1868
   T. W. THOMPSON M. A. VICAR
   J. BETTS H. W. BREWSTER CW.
   HOLINESS UNTO THE LORD

2. T OSBORN FECIT J787

3. T OSBORN FECIT J787

4. T OSBORN FECIT J787

5. T OSBORN FECIT J787 PERCUTE DULCE CANO

6. T OSBORN DOWNHAM FECIT J787
   MICHL BEVERLY THOS KEMP CHURCHWARDENS

Two bequests to the bells have been noted:

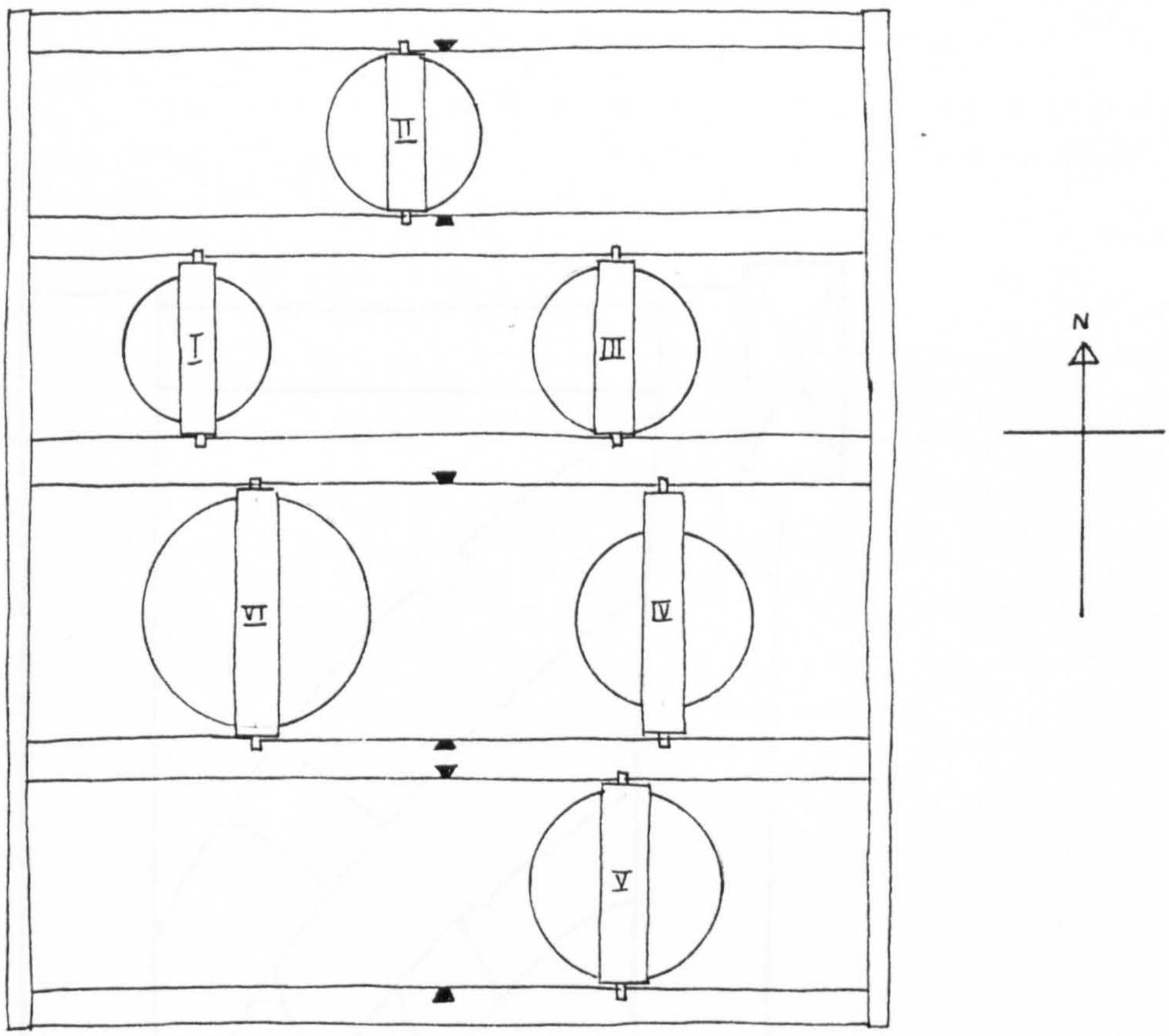
> 1437 Thomas Tybenham of Norwich[3] '... lego ad fabricationem novarum campanarum ville de Tybenham vj s. viij d ...'
>
> 1519 Thomas Thunder of Saxlingham Nethergate[4], among other bequests to various objects in Tibenham, '... to the reparation of the belles of the cherche iij s. iiij d. ...'

The 1552 Inventory records bells of 7 cwt, 10 cwt, 13 cwt, 18 cwt and 22 cwt. The earliest book of churchwardens' accounts, from c. 1575 to 1595, which is among the Buxton MSS. at Cambridge[5], includes an account of the recasting of a bell in 1590, and a contract in 1591 between the churchwardens and a bell-wright who, in return for the occupation of a house in the town, was to maintain the bells and keep them in good order for ringing. The second extant book of accounts covers the period 1728 to 1829[6] and records regular maintenance of the bells, but the major work of 1787 receives little notice apart from payments for journeys to and from Downham Market, where the bells were recast. The notes of Tom Martin[7] confirm that there were no more than five bells in c. 1735.

1. See above. p. 142.
2. See text below.
3. NCC Doke 100.
4. NFK Batman 309.
5. Cambridge University Library., Buxton Mss., 24/2/3.
6. Seen at the at the church, 1978.
7. NRO., Rye Mss., No. 17.

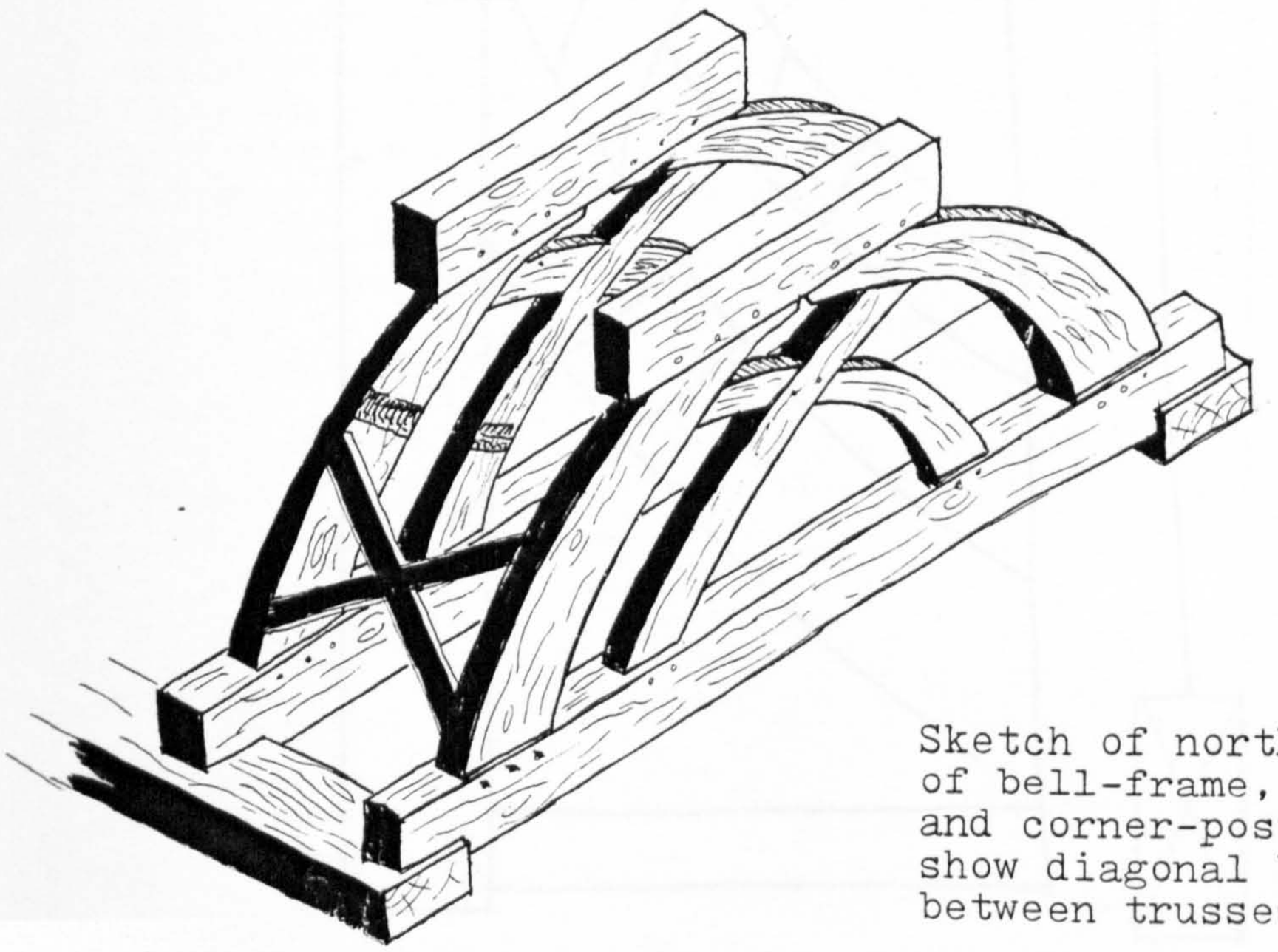
<u>TIBENHAM All Saints</u>. 22 December 1978

Diagram A:



Plan of bell-frame, 1978, scale 1 : 50.

Diagram B:



Sketch of north-east corner of bell-frame, frame-heads and corner-posts cut away to show diagonal bracing between trusses.

TIBENHAM, All Saints 22 December 1978

Diagram C:

Frame truss, 1978, scale 1 : 25.

In it present form the bell-frame accomodates a heavy ring of six bells, and a careful examination reveals that it is a four-bell frame, contemporary with the tower, which has been adapted to take successive rings of five and six bells, but which retains a very high proportion of the original timber.

The foundation of the frame consists of two massive, 24 inches (600 mm) wide by 11 inches (280 mm) deep, wall-plates which rest on off-sets along the east and west walls of the tower. The bottom cills of the frame trusses are cambered and are lap-dovetailed into the wall-plates. The long frame-heads are supported by vertical posts at their ends, and at their centres by pairs of curved braces rising from the ends of the bottom cills; the curved braces are additizonally supported from beneath by pairs of scissors braces[1].

The sizes of the timbers used differ according to the strength required in the various trusses. While the vertical dimensions of the timbers used to construct the frame trusses are similar, the section of timber used in the three inner trusses is greater than that used in the two outer trusses, thus taking account of the fact that the inner trusses support the weight of a pair of bells rather than the weight of a single bell, as at the outside of the frame. The timbers of the trusses parallel and adjacent to the north and south walls are approximately 7 inches (180 mm) thick, while those of the other trusses are approximately 8 3/4 inches (225 mm) thick. The top cills, which run parallel to the east and west walls of the bell-chamber, are only 4 inches (100 mm) thick.

In their present state, the frame-heads have the recesses fora bearings of bells in three positions where there is no bell in the present arrangement[2]. The north pit, which has a pair of vacant recesses on the exact centre line of the pit with the existing bell hanging slightly west of centre, appears never to have held more than a single bell; and the vacant recesses show that when the bell was most recently rehung it was repositioned to allow the bearings to be fitted to undamaged timber. Since there are no recesses for bearings it is clear that the pit which at present holds bells 1 and 3 of the ring of six has never held a solitary bell at the centre of the pit, and it would appear that the present long frame-heads of this pit have always supported a pair of bells as at present[3]. The trusses of this pit are, however, grooved to allow a bell to swing in the centre of the pit, and this confirms that the frame-heads are of a later date than the other components of the trusses which support them[4]. The pit which at present contains bells 4 and 6 of the ring of six has a pair of open recesses on the centre line and must, therefore, have contained a single large bell hanging at its centre

1. See diagrams A and C, pp. 145,146.
2. See diagram A, p. 145.
3. *Ibid.*
4. See diagram H, p. 152.

TIBENHAM, All Saints.

Diagram D.

Plan of bell-frame with long frame-heads, as arranged for five bells during the period c 1519 to 1787. Scale 1 : 50.

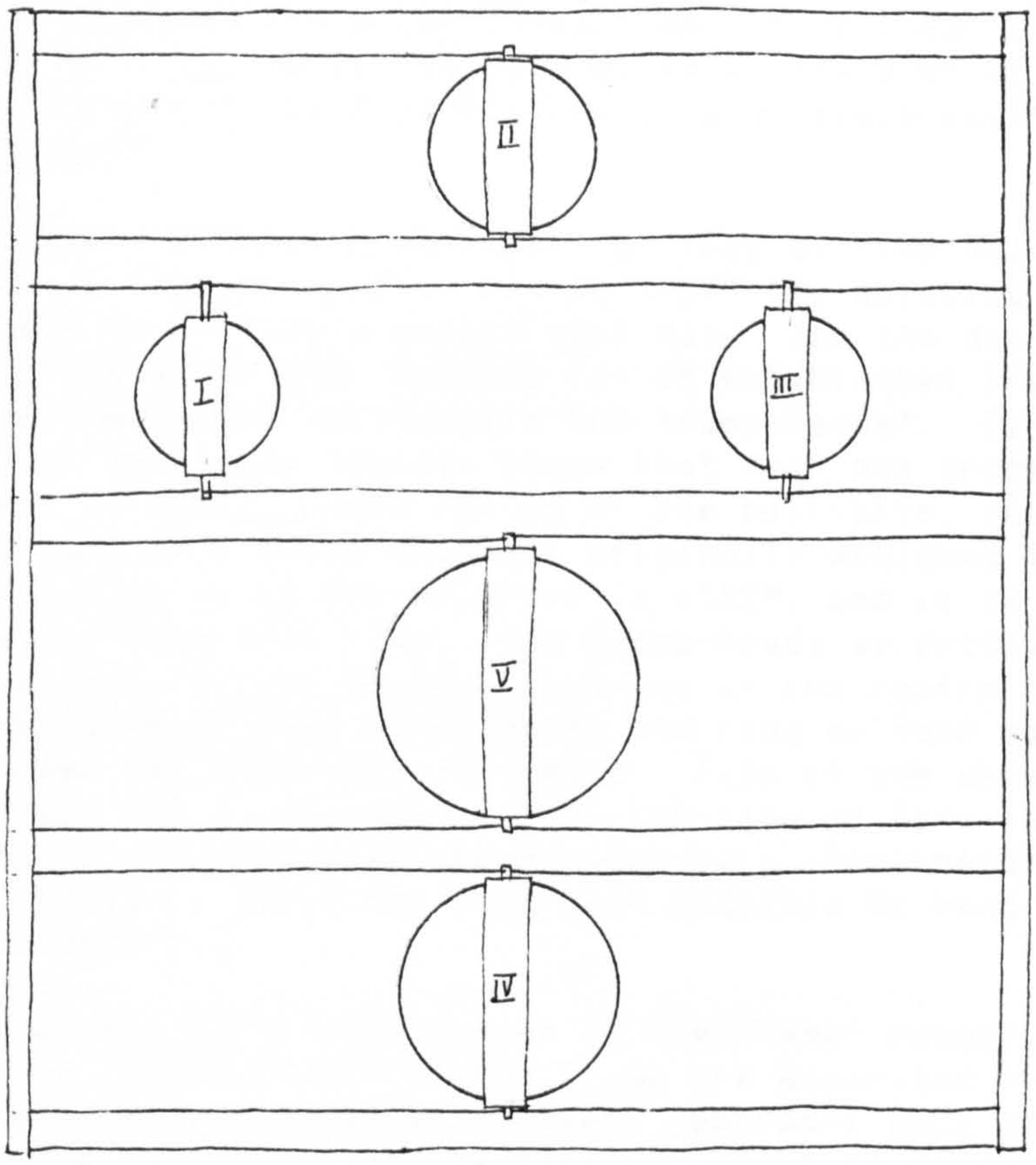
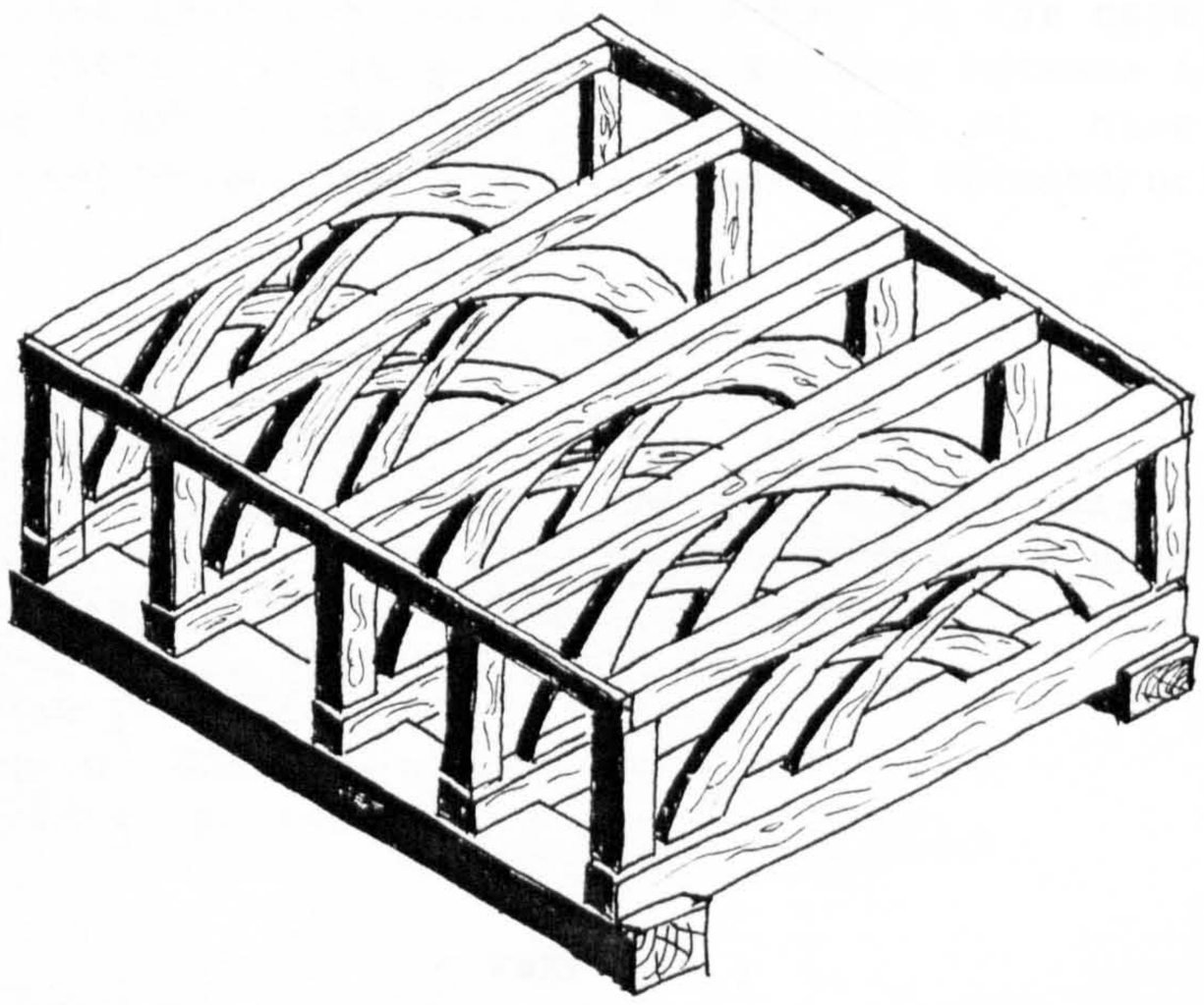


Diagram E.

Sketch of bell-frame during the period c 1519 to 1787.



before the introduction of the pair of bells which hang in the pit at present. The south pit, which at present houses bell 5 in a position well to the east of the centre line, has vacant recesses for bearings at the centre showing that a bell formerly hung there: since it would not be possible for a bell to swing at the centre of the pit while another bell occupied the present position, it is clear that the position of the single bell has been moved to the east in order to allow the bell-rope to fall vertically to a suitable position in the ringers' gallery[1].

Since the bells were almost certainly a ring of five until the installation of the new ring of six in 1787[2] the existing frame-heads must have been in existence before that date, and the disposition of the ring of five bells then hanging can be established from the positions of the vacant recesses in the frame-heads[3]. Careful examination of the frame trusses shows that each has grooves to allow a single bell to swing in the centre of the bell-pits, and that the trusses are part of a frame that was originally designed for a ring of four bells[4]. Five bells are recorded in 1552[5], and it is clear that the trusses pre-date that ring. The frame-heads as existing for the ring of five, and lacking bearing recesses on the centre line of one bell-pit, could never have accomodated the ring of four bells for which the frame was originally designed. Even if the existing frame-heads are not as old as c. 1552, the ring of five recorded in that year could not have been accomodated in a short-headed bell-frame, since it would not have been possible to hang a pair of bells in a single pit.

Examination of the north-east corner of the frame[6] reveals that the two trusses of the north pit of the frame are separated by a pair of crossed struts, halved together at their centres[7]: such an arrangement to preserve the separation of the trusses, which is superfluous in a frame with long frame-heads and top cills at right angles to the trusses, is needed only if the frame has short heads which cannot be braced together at their ends. On further examination it was found that all trusses have recesses for some form of strut to preserve their separation. The suggestion that the frame originally had short frame-heads was confirmed by the discovery of a piece of oak 5 ft 10 inches (1800 mm) long, with a section of 13 1/2 inches (350 mm) by 9 inches, (225 mm), having a pair of mortises in one face and a recess which could have held the bearing for a bell in the opposite face. The piece of timber, which serves as a packing between the bottom cill of one of the frame trusses and the floor, can only have been a short frame-head, removed at the time the frame was reconstructed with long frame-heads.

1. See diagram A, p. 145.
2. See Tom Martin's notes, NRO., Rye Mss, no. 17, and compare with the accounts at Tibenham church where there are many references to five bells. (p. 144, note 5).
3. See diagram D, p. 148.
4. See diagram C, p. 146.
5. See above, p. 144.
6. See diagram B, p. 145.
7. *Ibid*.

Diagram F.

Plan of bellframe with short frame-heads, as designed for four bells, probably in c 1437, scale 1 ; 50.

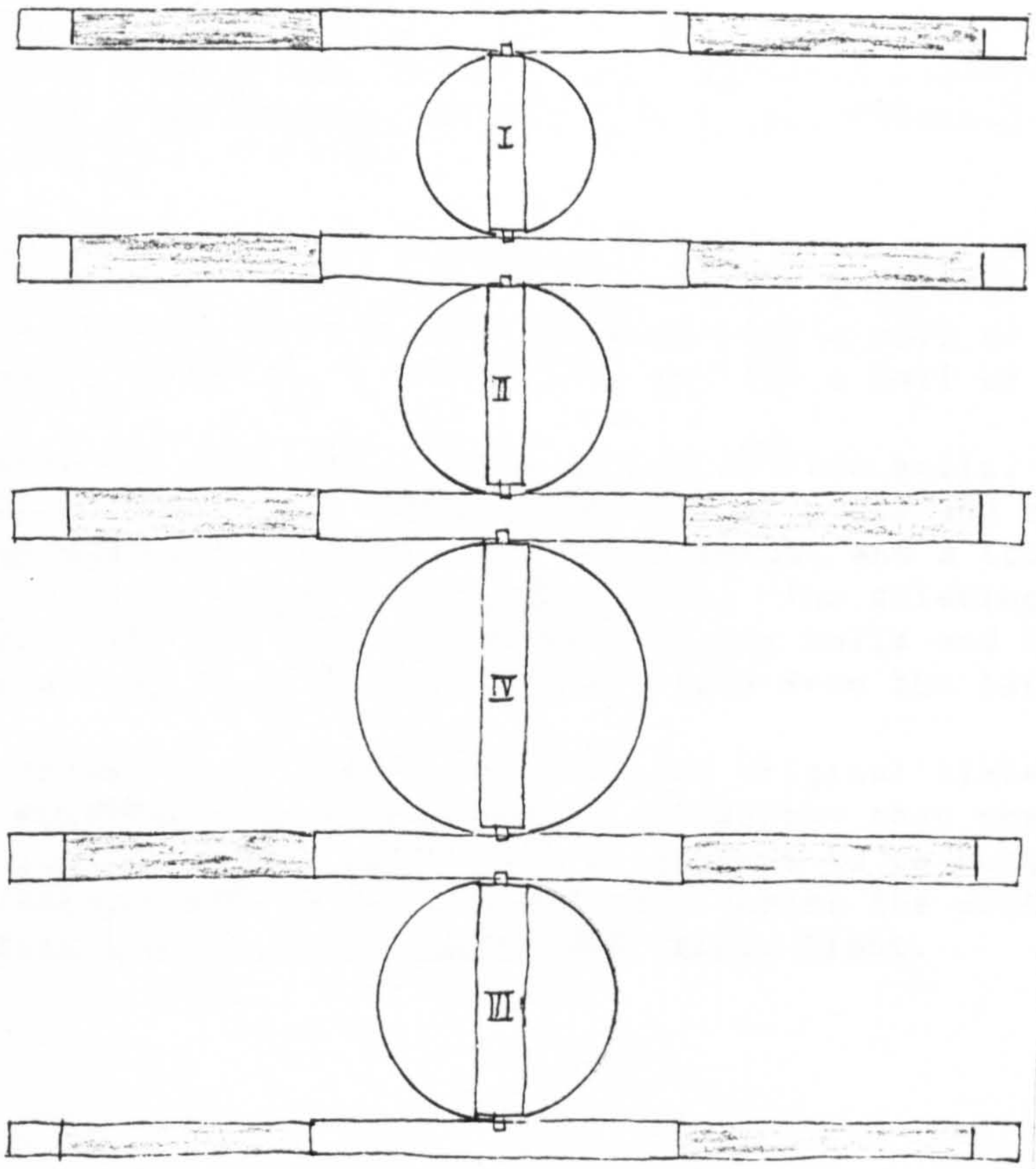
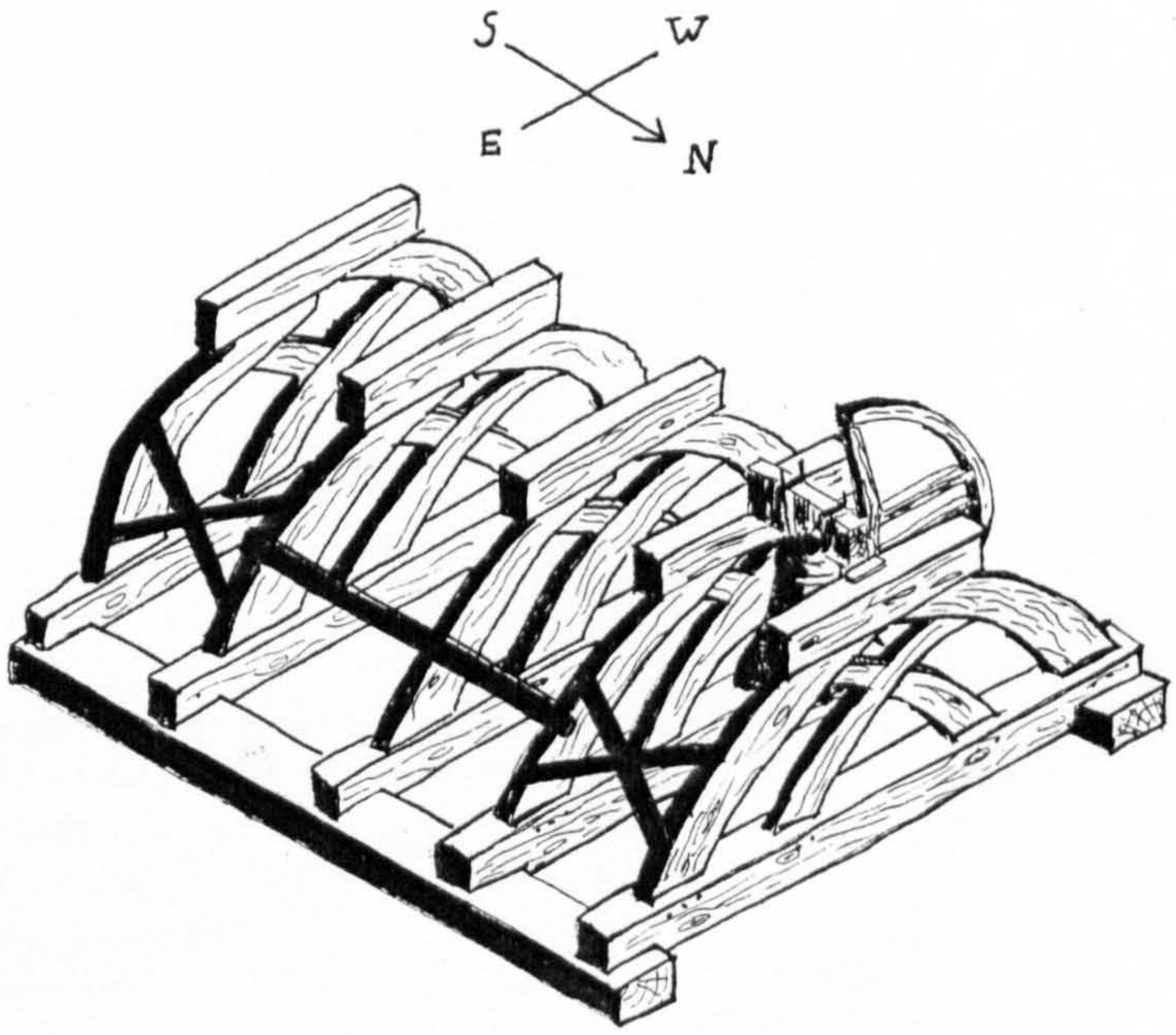


Diagram G.

Sketch of bellframe as designed in c 1437.



TIBENHAM ALTERATIONS.

The development of the bell-frame at Tibenham can be followed from the original design, probably of c. 1437[1] when money was left for making the new bells[2], which consisted of a frame with short frame-heads designed for a ring of four bells. The clearances between the grooved members of the frame trusses suggest that it was designed for the following ring of four bells:

North pit grooved at 45 inches (1140 mm) for a bell of 16 cwt.
Next pit grooved at 54 inches (1400 mm) for a bell of 25 cwt.
Next pit grooved at 40 inches (1020 mm) for a bell of 12 cwt.
South pit grooved at 36 inches (915 mm) for a bell of 8 1/2 cwt.

When the frame was adapted[3] to take a ring of five bells, probably in c. 1519[4], long frame-heads supported by corner-posts and end-posts to each pit replaced the earlier short frame-heads, and a top cill was introduced at right-angles to the bell-pits. The existing top cills certainly pre-date the 1787 restoration of the bells and their increase to a ring of six[5], and may well date from the 16th century.

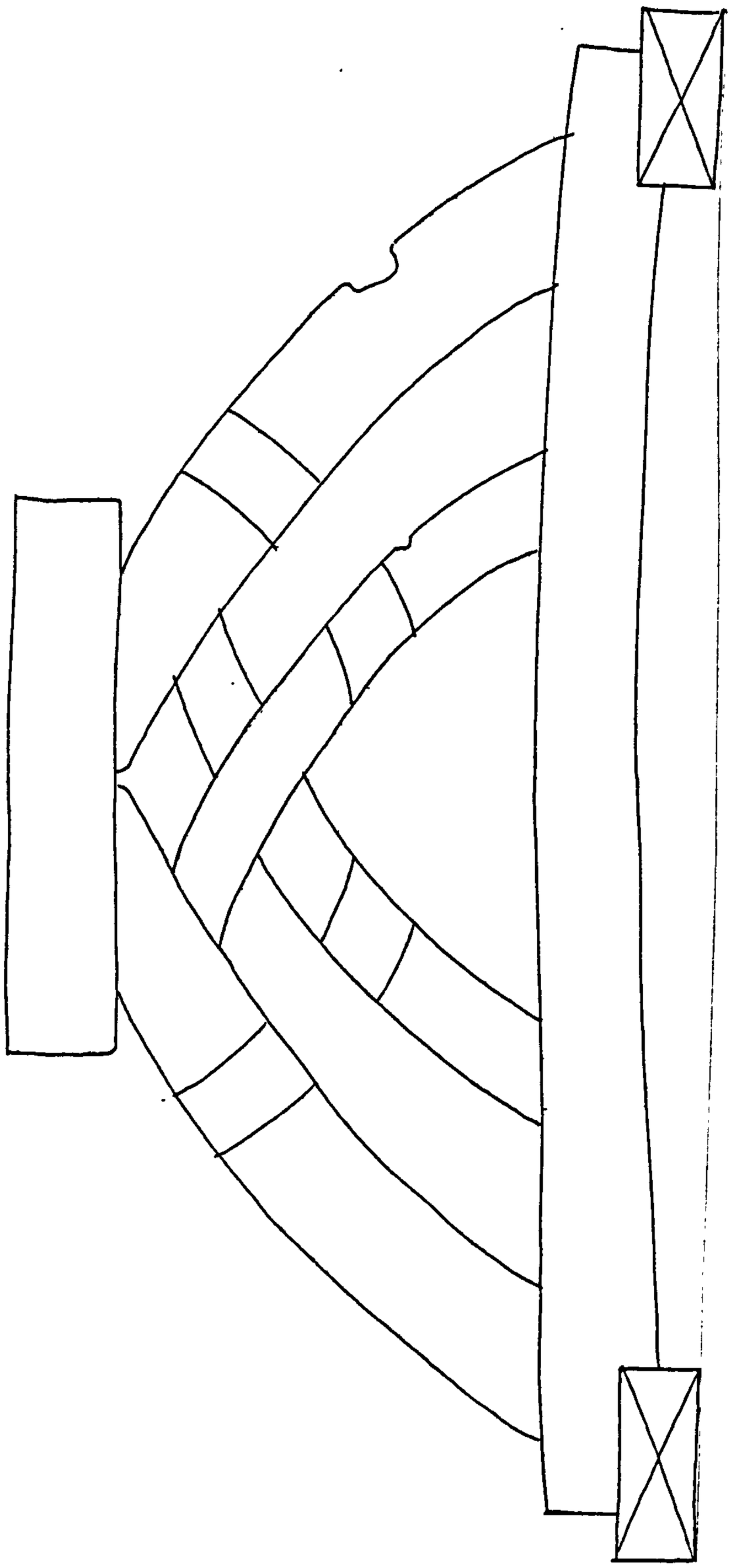
The entire frame, which retains much of the original timber of c. 1437, is a remarkable survival: and it noteworthy that the six bells, which were last rehung in 1868[6], are still able to be rung in full circles, although with difficulty and only during the winter when the timber is damp and the frame joints are fairly tight.

1. See diagrams F and G, p. 150.
2. NRO., NFK Doke, 100.
3. See diagrams C, D, E, pp. 146, 148.
4. NRO., NFK Batman, 309, see p. 144.
5. See above, p. 149.
6. Date inscribed on the bearing blocks.

TIBENHAM, All Saints.

Diagram H.

Frame truss as designed in c 1437.



WACTON, All Saints. September 1977.

The round west tower is of two distinct stages: the lowest 25 ft (8 m) are neatly constructed of well graded and coursed flints, but the upper stage, completing a total height of about 50 ft (16.5 m), batters considerably and is very differently constructed using less well-graded flints. The archway to the nave has a semi-circular head and there is a simple slit window, with a semi-circular head, to the west. The details of the sound-windows are of limestone, three of them having single lights with plain segmental heads while the west window has an ogee arch with simple cusping. A very unusual feature is that the ridge-piece of the nave roof rests on the cill of the east sound-window, implying strongly that the upper part of the tower is of the same date as the nave, which appears to retain its contemporary roof structure. Unusually for south Norfolk, Wacton church is a large unaisled building with no structural division between the nave and chancel, but there is a church with a similar plan at Norton Subcourse where a contract for the church roof suggests a completion date of c. 1319[1]. The unusual details of the large, ogee-headed windows at Wacton are comparable to those in Bishop Salmon's Chantry Chapel (otherwise called the Carnary Chapel, now the chapel of King Edward VI School) at Norwich, which was completed in 1318[2]. In the absence of documentary evidence, the style and details of Wacton church suggest a building date in the first quarter of the 14th century, and it is probable that the tower was increased in height at about the same time.

The bells are a ring of three, tenor diameter 33 inches (840 mm) weighing approximately 6 1/2 cwt and sounding B flat.

1. Uninscribed.

2. + Sancta : Maria : Ora : Pro : Nobis

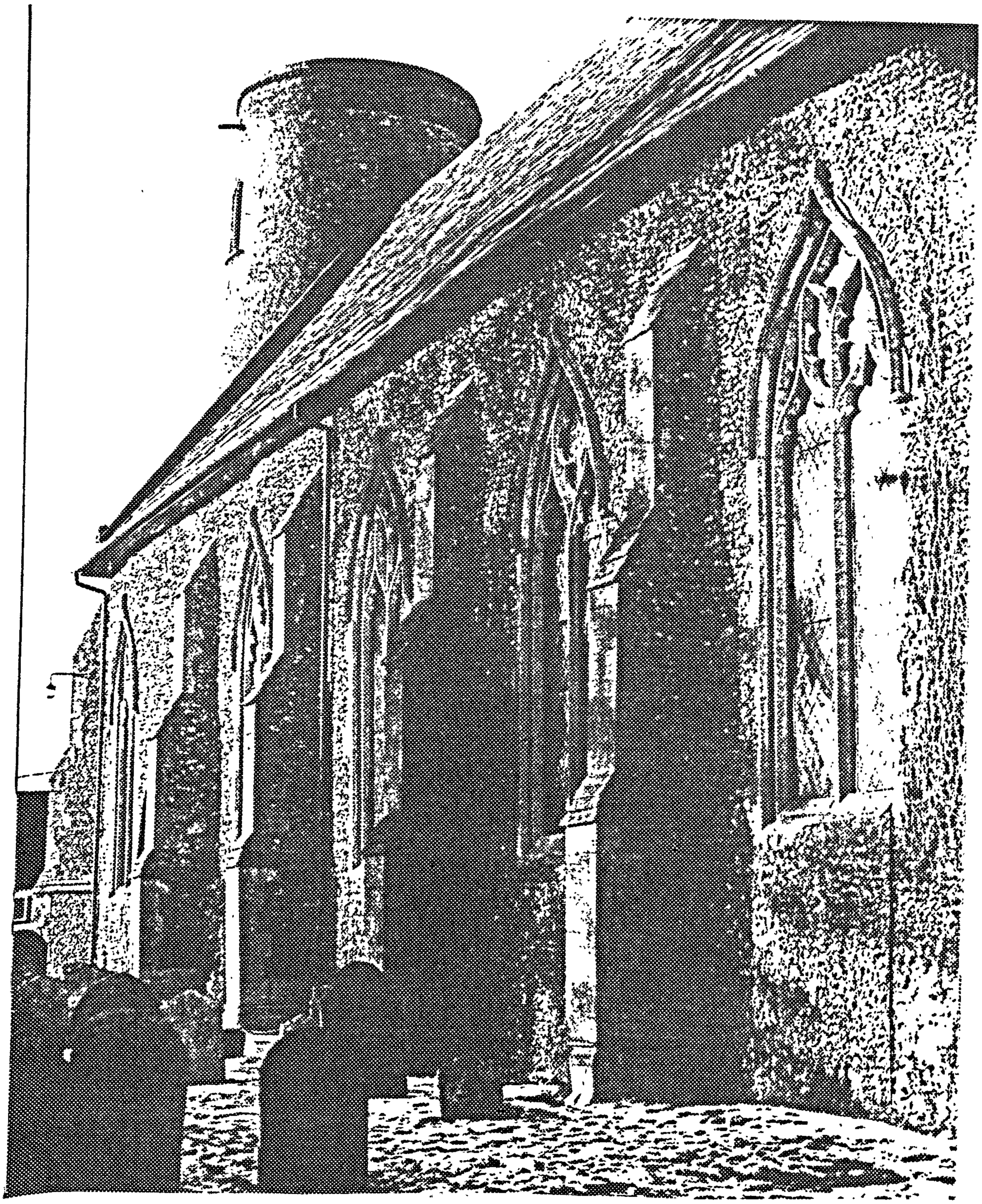
3. + AVE MARIA GRACIA PLENA : DOMINVS TECVM

The treble bell has moulding wires which are identical to those on the former second bell at Tharston (recast in 1975) and on the existing bell at Shelton. The Tharston bell (certainly[3]) and the Shelton bell (probably[4]) can be ascribed to Samuel Gilpin of Norwich on documentary evidence[5], and he is suggested as the likely founder of the Wacton treble bell. No record of casting can be traced in the churchwardens' accounts at Wacton[6] which begin in 1689 and continue to 1710; and since Gilpin was active from c. 1679 to 1705[7] it is likely that the treble bell was cast between c. 1679 and 1689. The inscription on the

1. C&C.
2. P. D. T. Cattermole, *Bishop Salmon's Chantry*, Norwich, 1983, *passim*.
3. See note on Tharston. p. 141
4. See note on Shelton.p. 126.
5. See p. 447.
6. Examined at Wacton, January 1981.
7. See p. 447.

WACTON

January, 1979.



Round tower with upper stage added probably in the early 14th-century.

second bell is heavily mutilated, and the wording can only be made out using the shadow cast by a torch: the type of lettering used cannot be established, but the distinctive shields on the crown of the bell confirm that it was cast at the Bury St. Edmunds bell-foundry[1]; a bequest in 1485[2] suggests a likely date for the bell, whose founder would probably have been Reginald Chirche[3]. The lettering on the tenor bell has also been mutilated in the same way as that on the second bell, but with less thoroughness: it is possible to confirm that the bell is a product of the Norwich bell-foundry, and to suggest that it is the work of Thomas Potter who was working in the period 1403 - c. 1418[4]. The 1552 Inventory records bells of 5 cwt, 7 cwt and 8 cwt.

The bell-frame, which is designed for a ring of four bells, appears never to have held more than three, and the fact that it has been excessively cut away to allow the two heavier bells to swing suggests that it was designed for lighter bells than the existing 2nd and 3rd bells. The plan of the upper part of the tower is approximately round, and there is a square off-set where the foundations of the frame are built into the masonry.

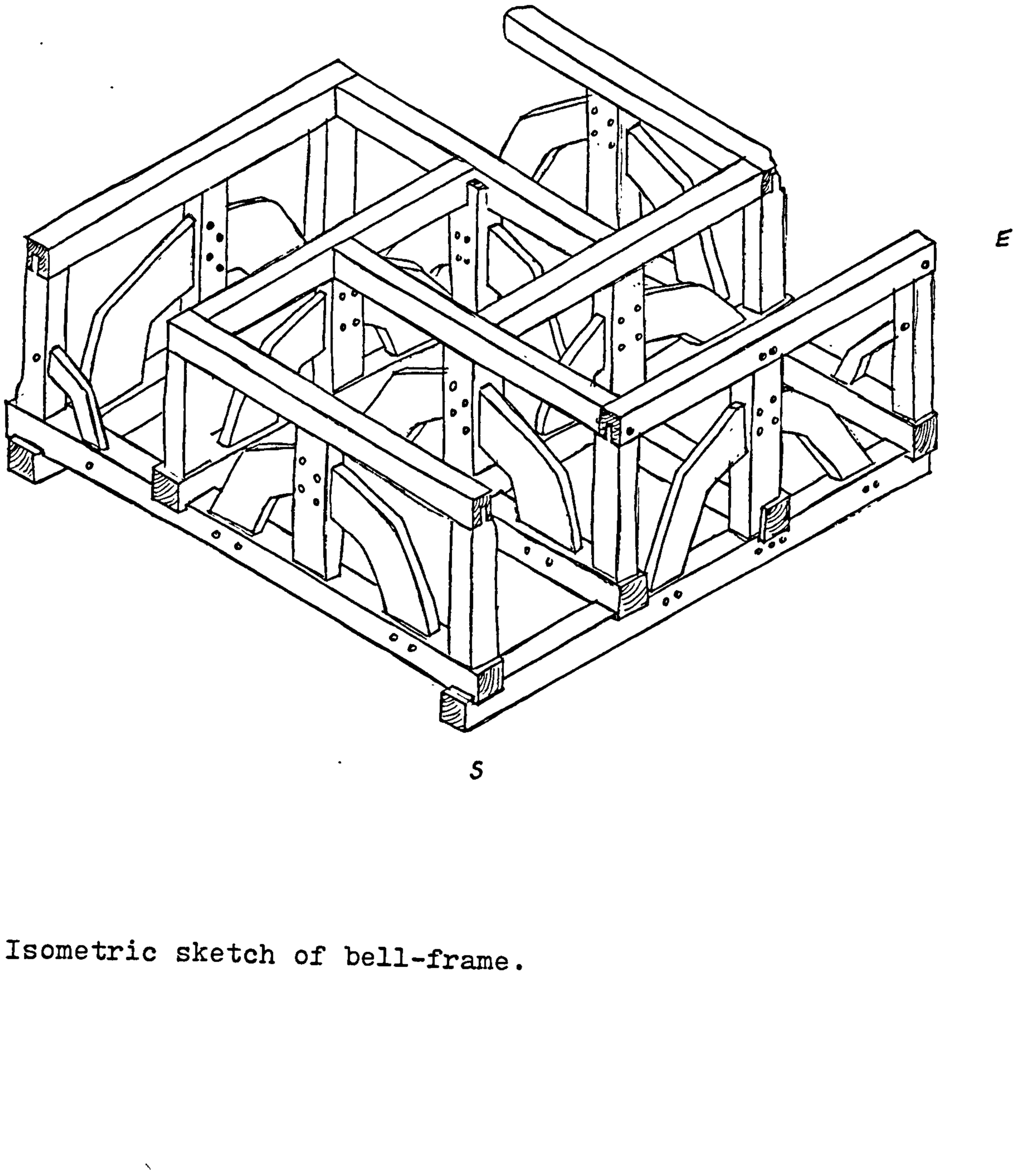
The foundations of the frame are on three levels[5], and consist of timbers approximately 7 3/4 inches (200 mm) high by 8 1/2 inches (220 mm) wide. The two lowest members which run north-east to south-west are built into the tower walls at their ends, and rest for their entire lengths on a off-set. Four timbers, at right-angles and spanning the width of the tower, are lap-dovetailed into the two lowest beams. Two shorter beams, roughly two-thirds of the width of the tower, are halved onto the beams of the second layer, thus forming a third layer of foundation timber. The whole of the foundation structure adds greatly to the strength of the tower.

The vertical posts are of four types according to their positions in the frame[6]:

1. Posts at the extreme corners of the frame, whose function is to support the free ends of the frame-heads of the bell-pits: there appears never to have been a post in the north corner. These posts are approximately 6 inches (150 mm) square.
2. Posts at the junction of the frame-heads of two pits. These posts are approximately 4 1/4 inches (110 mm) by 7 inches (180 mm).

1. CBS., p. 64.
2. 1485 Margaret Florance of Wacton. NFK Liber One 72.
3. CBS., p. 64.
4. See p. 434.
5. See diagram, p. 158.
6. See isometric sketch, p. 156.

WACTON, All Saints.



Isometric sketch of bell-frame.

3. Posts at the centre of the bell-pits on the outside of the frame whose purpose is to give support to the bearings of the bells. These posts are approximately 8 1/2 inches (220 mm) by inches (180 mm).
4. Posts at the centre of the bell-pits on the inside of the frame whose function is to give support to the bearings of the bells and, additionally, to support the ends of the frame-heads of the bell-pits at right-angles. These posts are approximately 8 1/2 inches (220 mm) by 7 inches (180 mm). The jointing of these posts to the foundations of the frame is complicated by the fact that a pair of beams, at different levels, cross at these points: the posts to the east and west of the central space are jointed only to level 3, while those to the north and south of the space are jointed to both levels 2 and 3, thus giving additional stability at the ends of the shorter beams of level 3.

With the exception of the posts of type 2, all posts are braced to the foundations by means of angled braces[1].

The plan of the frame, which consists of four pits arranged around a central space, has not been altered in subsequent repairs although an additional frame-head has been added. The open ends of the pits allow the bells to swing into the window reveals, and the frame-heads are grooved to allow the bells to swing up. The clearances between the king-posts are in agreement with the grooved frame-heads as follows:

South pit 31 1/2 inches (800 mm) for a bell of 5 1/2 cwt.
East pit 29 1/2 inches (750 mm) for a bell of 4 1/2 cwt.
North pit 24 inches (605 mm) for a bell of 2 1/2 cwt.
West pit 28 1/2 inches (720 mm) for a bell of 4 cwt.

The absence of sockets for the bearings suggests that the north pit has never been occupied, and the fact that there is no corner post strengthens the suggestion that it might have been designed for a small sanctus bell which was never provided. The frame, which is much patched retains a great deal of its original timber and appears to date from the early 14th century.

1. See isometric sketch, p. 156.

WACTON, All Saints.

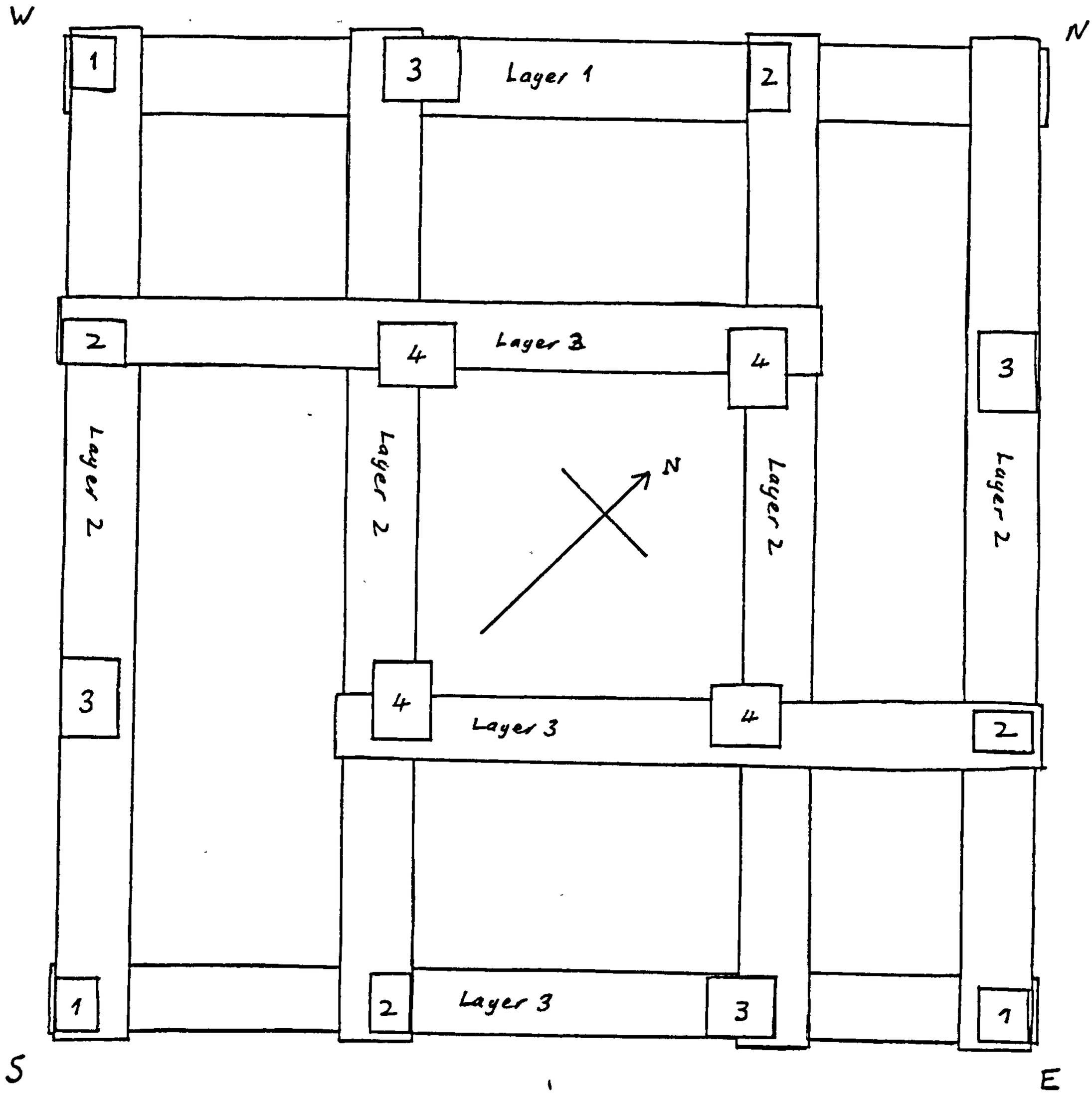


Diagram A: Foundations of bell-frame, scale 1 : 20
Positions of vertical posts shown.

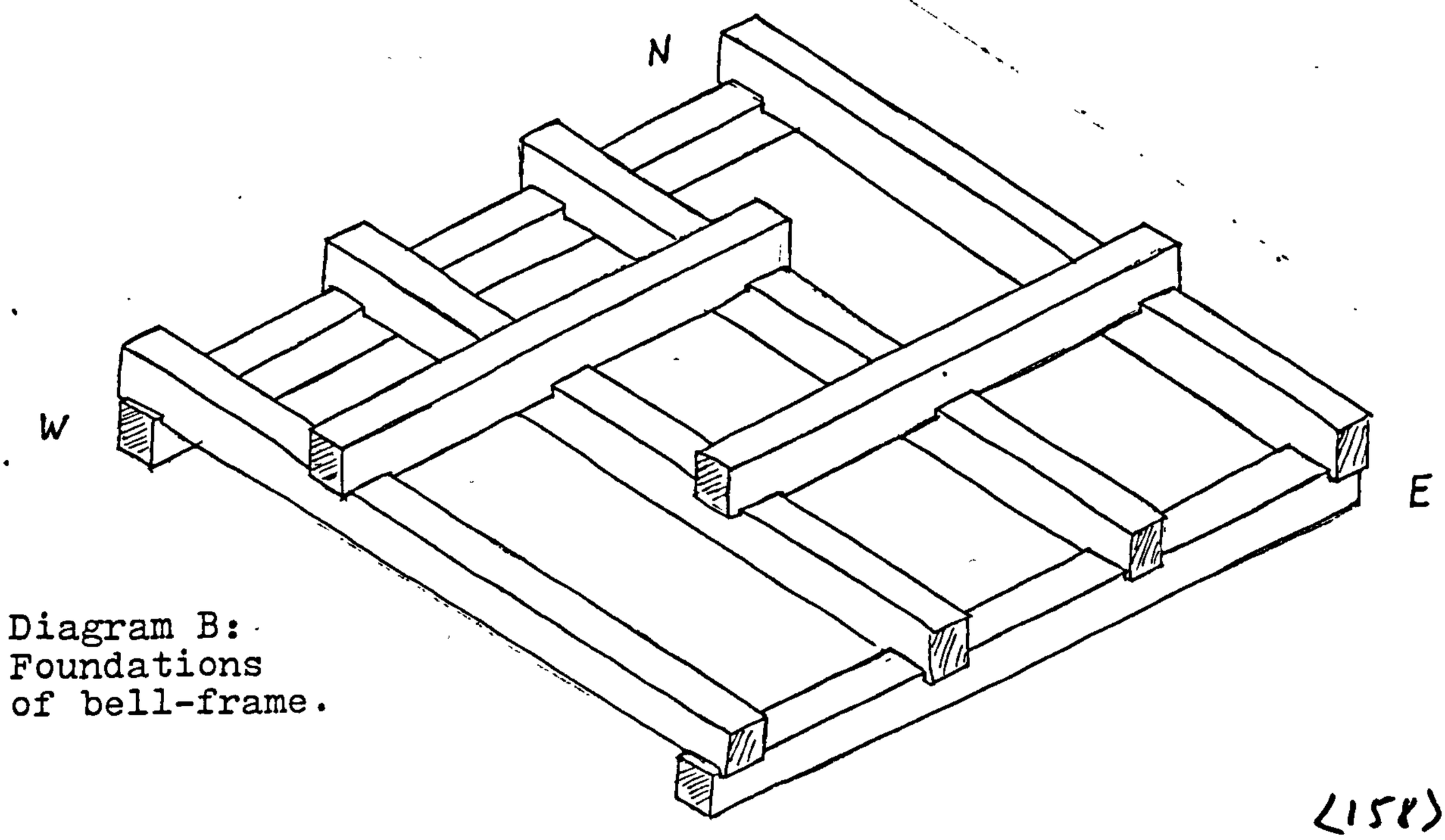
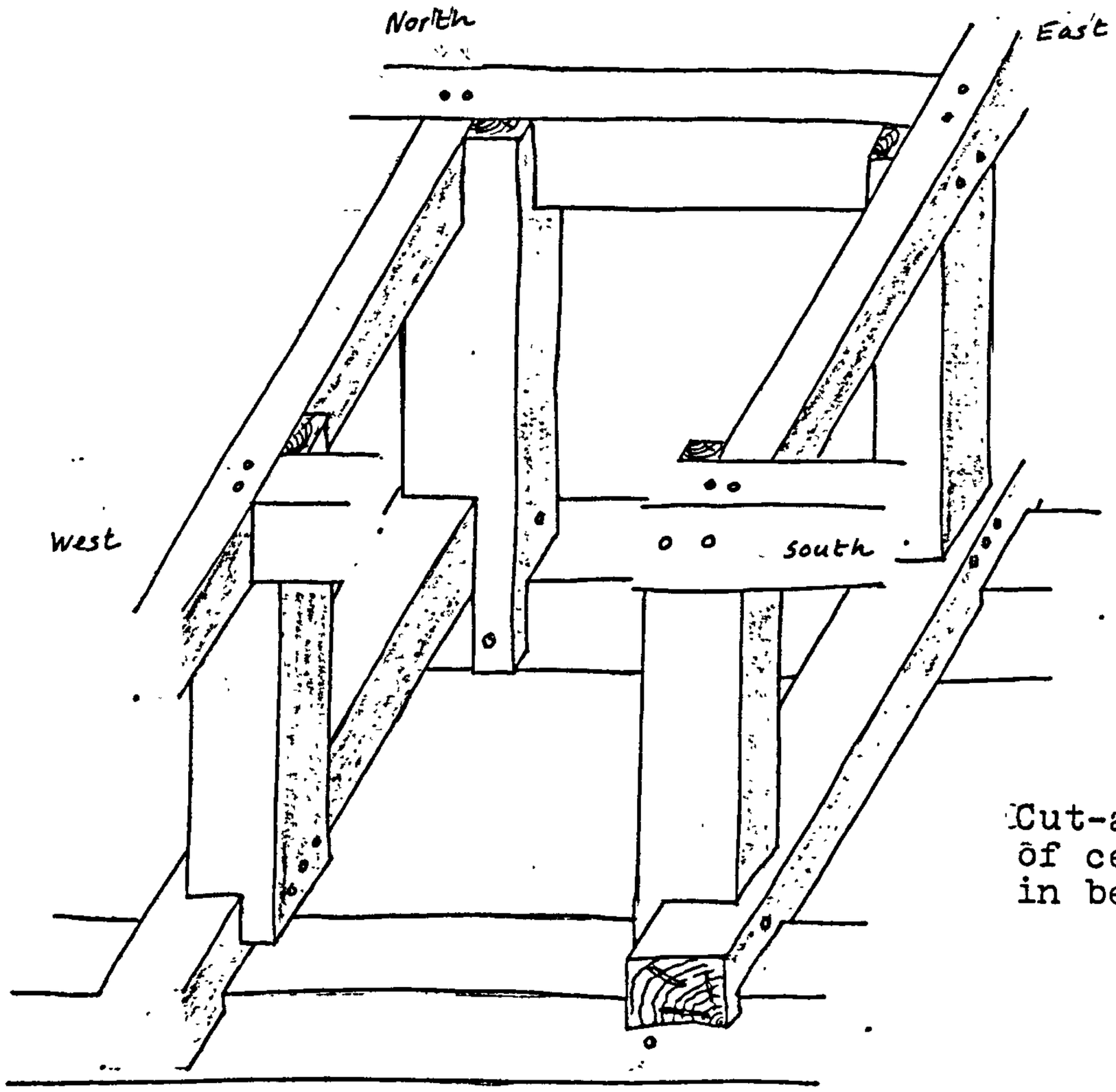


Diagram B:
Foundations
of bell-frame.

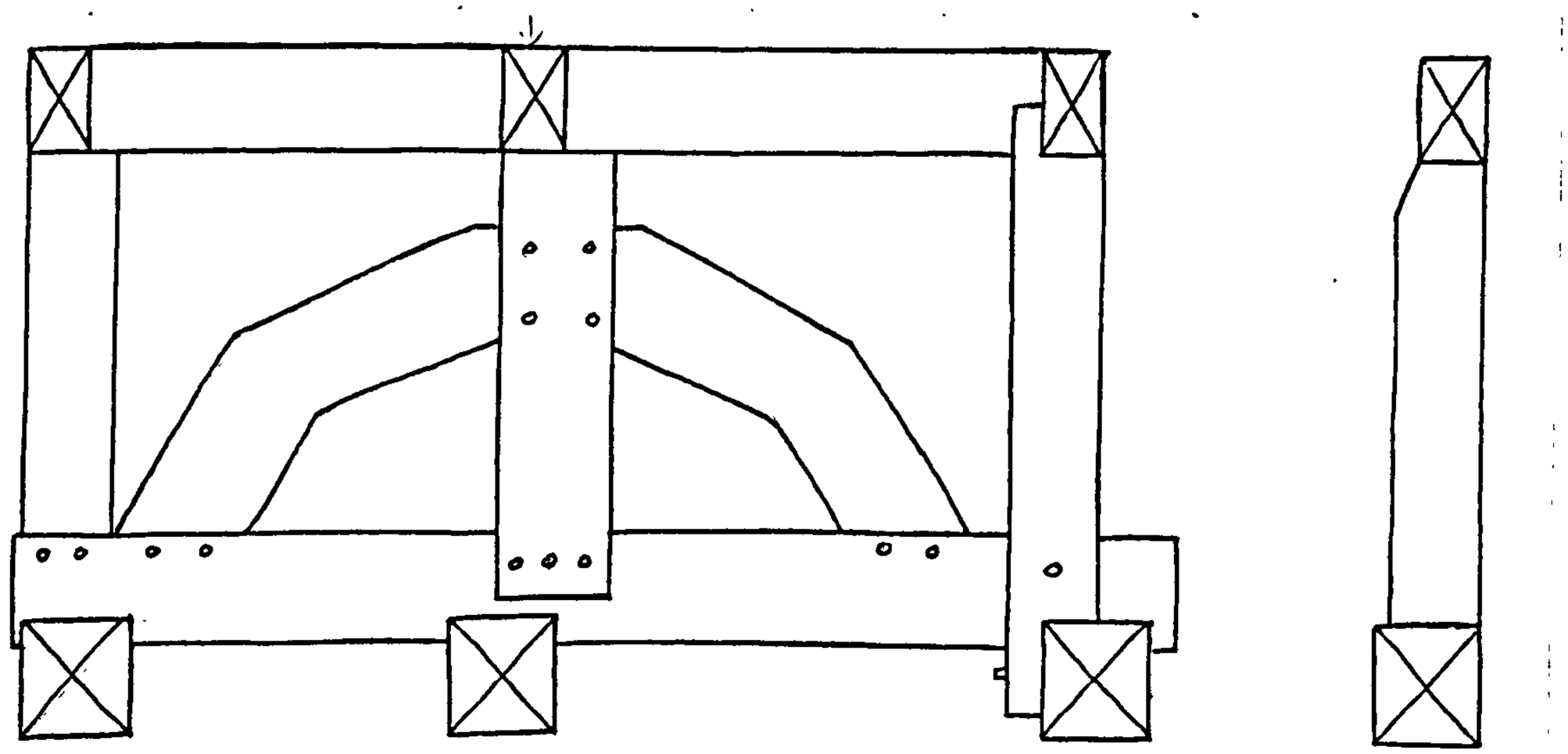
<u>WACTON, All Saints</u>.

Diagram C:



Cut-away diagram of central space in bell-frame.

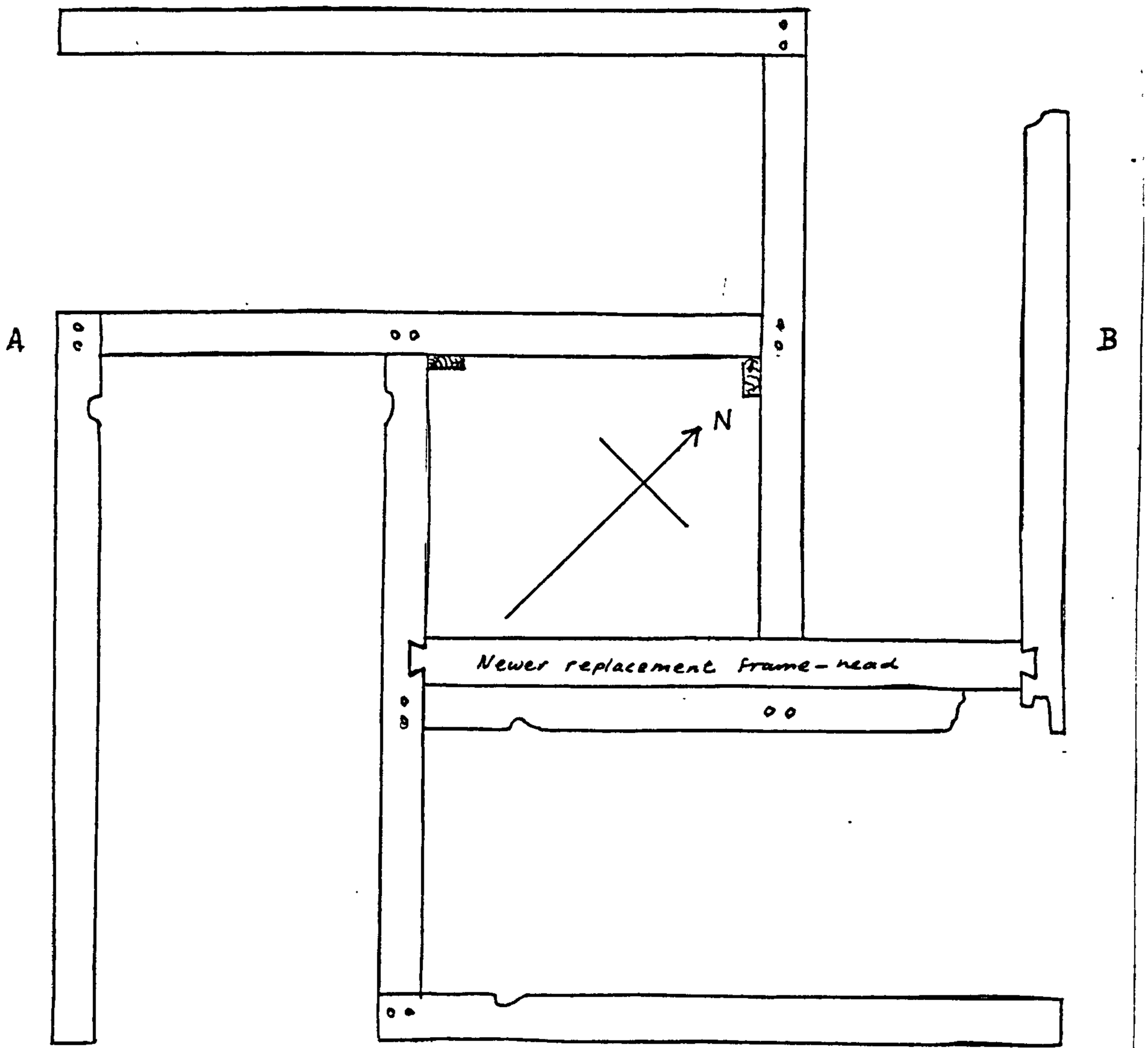
Diagram D:



Section through bell-frame, scale 1 : 20
(At A-B on diagram E)

WACTON, All Saints.

Diagram E:



Plan of frame-heads of bell-frame, scale 1 : 20.

HUNDRED OF DISS

BRESSINGHAM, St John Baptist. April 1982.

The square west tower has a projecting stair turret at the south-east corner and diagonal buttresses at the north-west and south-west corners. Four string-courses divide the tower horizontally, and there is a weathering on the east side which shows the line of a former roof. The tower is constructed of flint rubble and is faced with knapped flint: limestone is used for the external details which include quoins, string-courses, jambs and voussoirs of windows and doorways; while brick is used for many of the internal details. Flushwork decoration is applied to the base course, the faces of the buttresses and the embattled parapet. The west doorway has a very fine arch with decorated spandrels and the three-light west window is flanked by stooled and canopied niches. There is a two-light window to the first-floor chamber and four sound-windows, also of two lights, to the second-floor bell-chamber. An opening through the east wall of the tower, above the tower arch, is visible at the level of the apex of the nave roof. The constructional details of the tower, taken with bequests in 1431 and 1480, and the evidence of the heraldry in the spandrels of the west doorway, suggest that the tower was complete by about 1450[1]. The weathering on the east face of the tower indicates that the pitch of the nave roof was altered, probably between c. 1505 and c. 1527; at which time the east gable of the nave, with its sanctus bell cote, would also have been constructed[2].

The bells were formerly a ring of five, now adapted for stationary chiming, the tenor has a diameter of 42 1/2 inches (1080 mm), weighing approximately 14 cwt and sounding F.

1. + Sancte Iohannes Ora Pro Nobis
2. M & S LONDON RECAST 1922
3. M & S LONDON RECAST 1922
4. MILES GRAYE MADE ME 1671
   HENRY MALLOWES & WILLIAM ROWT CHURCH WARDENS
5. THOMAS LESTER OF LONDON MADE ME 1751

The 1552 Inventory records bells of 4 cwt, 6 cwt, 8 cwt, 10 cwt and 12 cwt, and 1 is a pre-Reformation bell from the Bury St. Edmunds[3]

1. C&C.
2. C&C.
3. See p. 441

BRESSINGHAM

June, 1979.

Square tower, probably completed by c. 1450.

bell-foundry which may well be that referred to in the will of Alexander Hobart in 1480[1]. The churchwardens' accounts covering the periods 1580-1594 and 1600-1680 survive[2] together with continuous accounts from 1681 onwards. The accounts, which record the usual items of maintenance for the bells but show no major work or remodelling of the bell-frame, have several important entries relating to the bells:

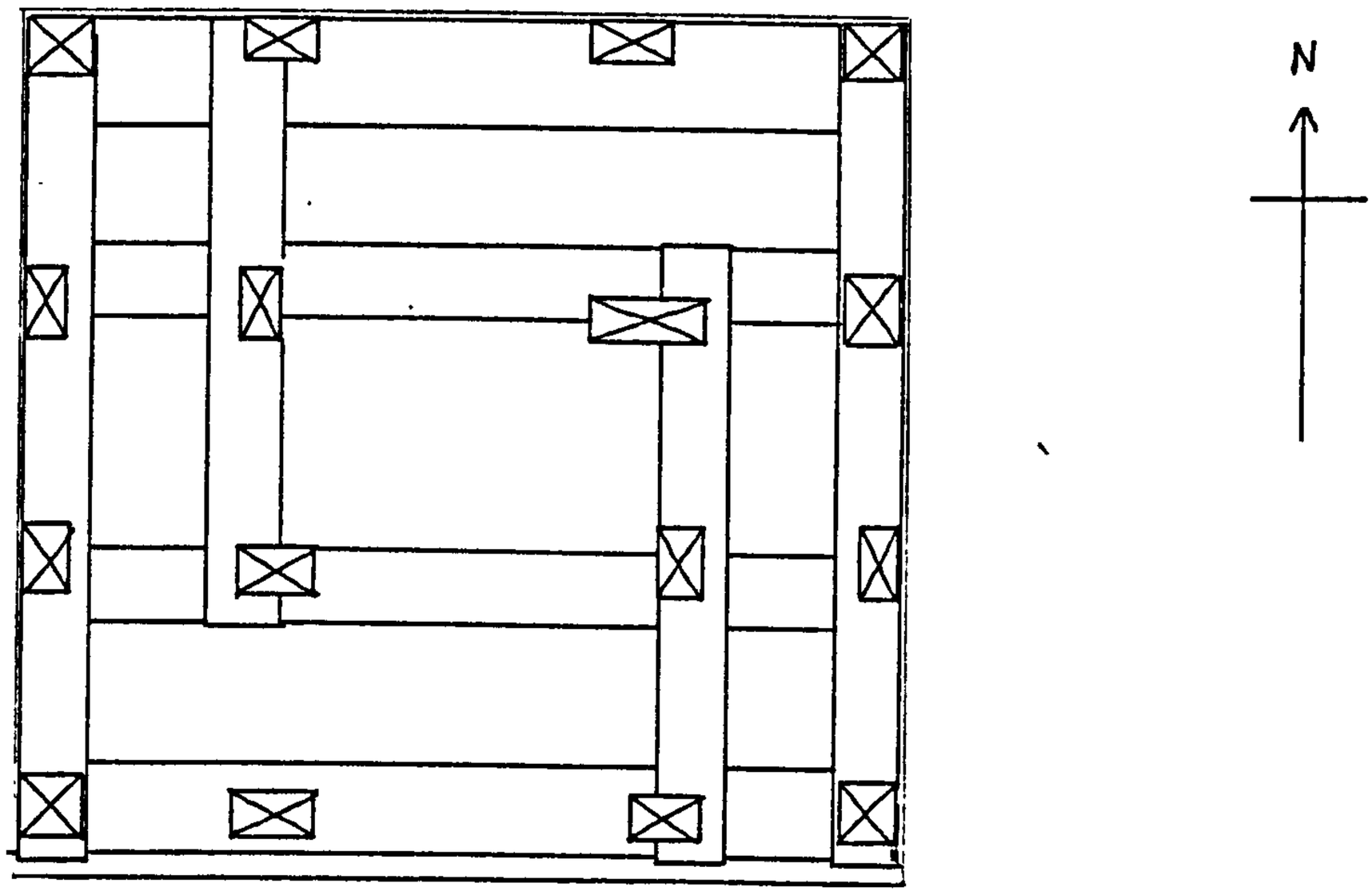
> 1618 John Draper of Thetford recast the fourth bell of the ring of five (which weighed 9 cwt 3 qr 1 lb) with additional metal obtained by melting down the sanctus bell (which weighed 112 lbs).
> 1644 'paid vij of May to Captaine Gilley for the viewing of the church for abollishing superstitious pictures vj d. Item paid to John Nun for ij dayes work and for taking down of glass and pictures about the church and the letters about the bells iij s. iiij d.'
> 1671 Henry Yaxley was paid for recasting the fourth bell at Thrandeston.
> 1750 The tenor bell was taken down for recasting.

John Nun's work is clearly seen on the present treble bell, and the letters on the predecessors of 2 and 3 were illegible when L'Estrange recorded the inscriptions[3]. The inscription on the fourth bell is remarkable in view of the clear indication from the churchwardens' accounts that it was recast by Henry Yaxley; and it is likely that Yaxley was acting as foreman for Miles Graye II[4], a well-known itinerant bell-founder. In 1922 all five bells were immobilised and adapted for chiming from a clavier at the base of the tower; and the bells recast in that year, having larger diameters than their predecessors, would not swing 'up' in their present pits.

The bell-frame in its present form holds five bells which were rung in full-circles until about 1900 [5]; and appears to consist of a basic four-bell frame of the same date as the tower, with a fifth bell accomodated between a pair of timbers set obliquely across a vacant central space. The foundations of the four-bell frame are independent of the fragmentary second floor of the tower and are arranged on two levels. The lower level consists of four beams running east-west, the outer pair are approximately 16 inches (400 mm) wide by 11 inches (280 mm) deep and the inner pair are approximately 13 inches (325 mm) wide by 11 inches (180 mm) deep. The upper level consists of four beams running north-south, the upper pair are approximately 12 inches (300 mm) wide by 9 1/2 inches (249 mm) deep and span the width of the

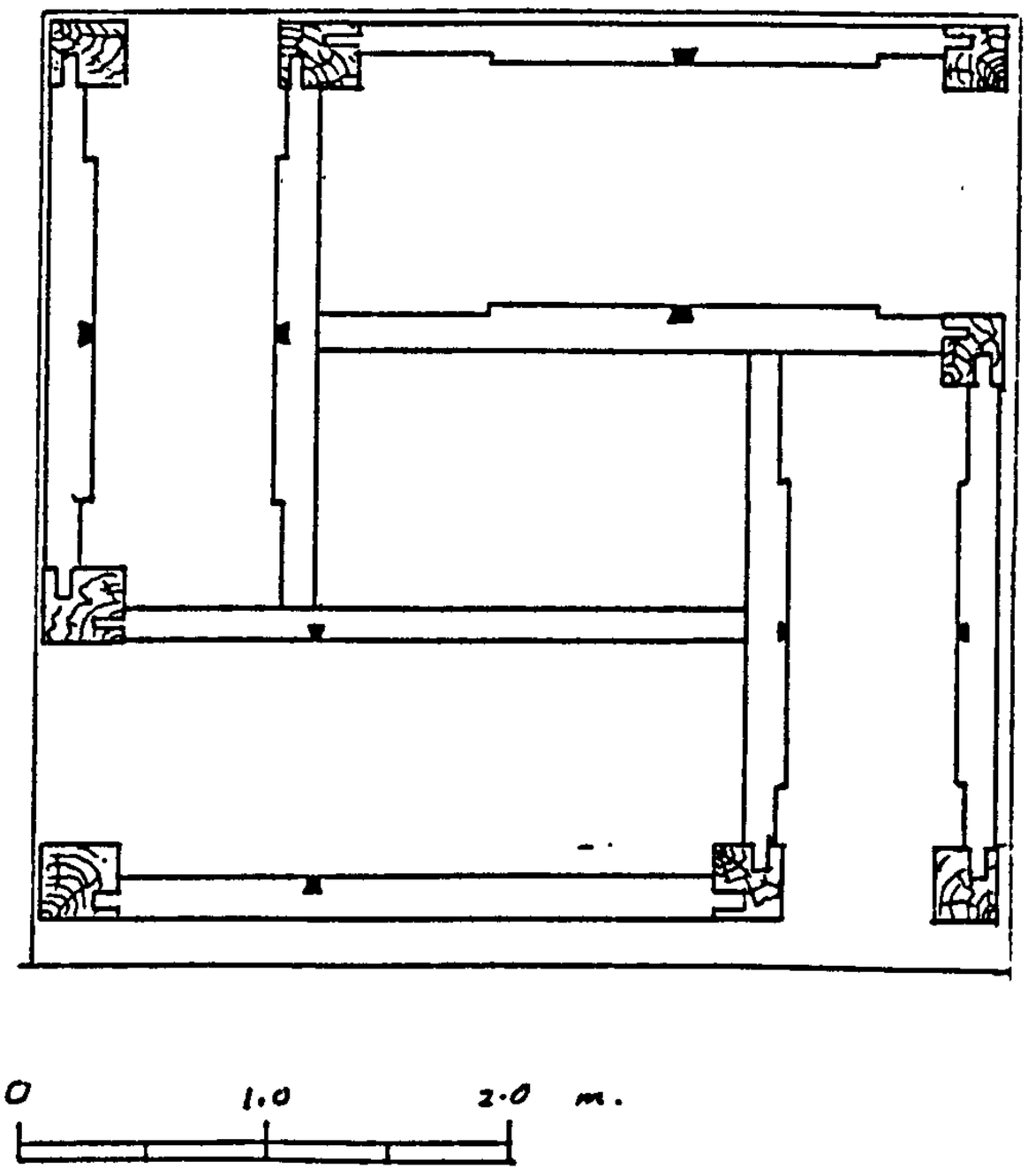
1. 1480 Alexander Hobart of Bressingham, NCC A Caston 46. 'lego ad reparationem ecclesie de Bressyngham antedicte quinque marcas videlicet ad unam novam campanam emendum xl s. residuum dictarum quinque marcarum ad novam edificationem le ylde ex parte boriale eiusdem ecclesie de Bressyngham'
2. NRO. PD 111/69 and PD 111/70.
3. CBN, p. 106.
4. CBS, p. 133.
5. Information from Mr F. N. Golden who was a ringer at Diss in the 1930's and who rang with a former Bressingham ringer.

Diagram A.



Plan of foundation timbers of the bell-frame.

Diagram B.



Plan of frame-heads of the four-bell frame.

tower while the inner pair, of the same size as the outer pair, extend to two-thirds of the width of the tower[1]. The beams are unevenly spaced to take account of the unequal diameters of the bells hung in the frame. The joints used are lap-dovetails at the ends of beams, and simple halved joints at the intersections of beams.

The frame-trusses are designed with king-posts beneath the bearings of the bells: the king-posts are braced to the foundations of the frame. The long frame-heads are supported by the king-posts, by corner-posts and by additional curved braces between the corner-posts and the frame-heads[2]. Because of the differences in the widths of the bell-pits, the trusses are generally unsymmetrical, with the king-posts placed nearer to the outside of the bell-frame. To enable the pits to accomodate bells of the largest possible size, the frame-heads are neatly recessed to allow the lips of the bells to swing past, and the king-posts are grooved to the same measurements.

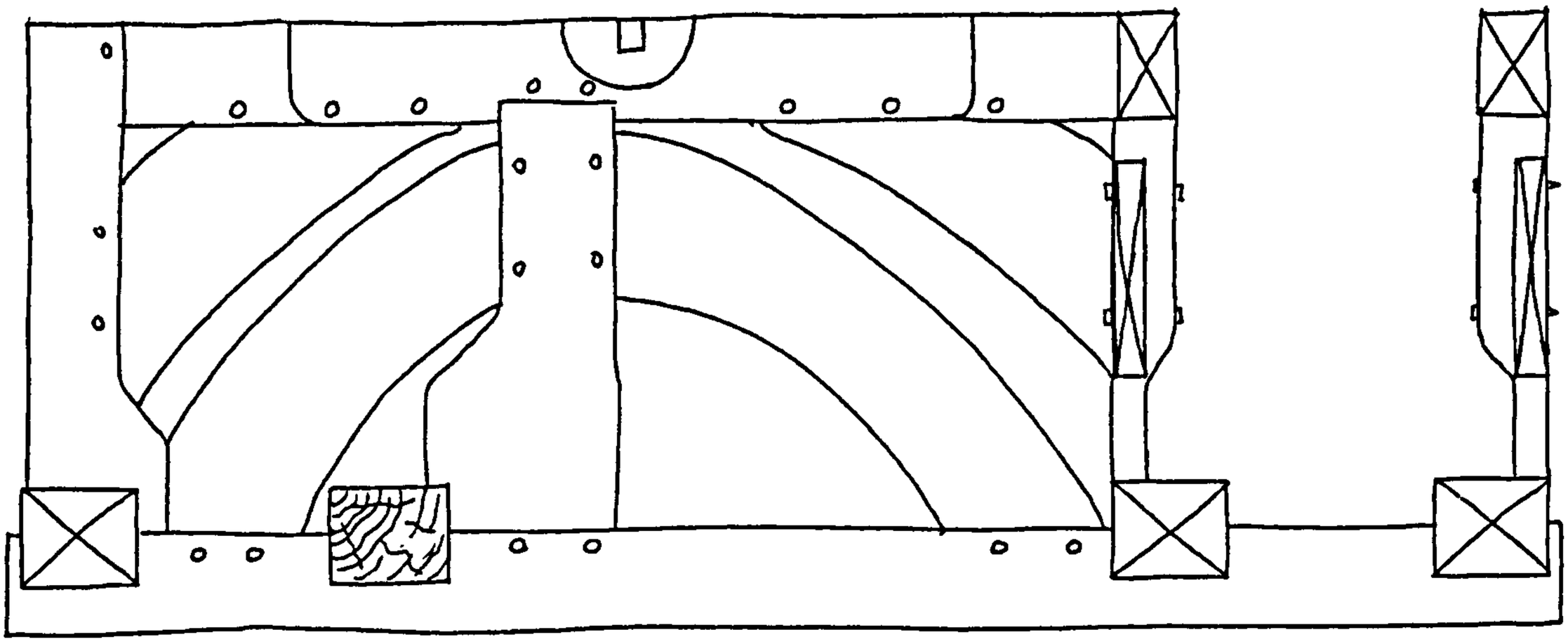
The four-bell frame was designed as follows:

> South-east pit 28 inches (710 mm) wide, recessed at 35 inches (890 mm) for a bell of 6 1/2 cwt.
> South-west pit 38 1/2 inches (980 mm) wide, recessed at 42 1/2 inches (1080 mm) for a bell of 12 cwt.
> North-west pit 31 1/2 inches (985 mm) wide, recessed at 38 1/2 inches (980 mm) for a bell of 8 3/4 cwt.
> North-east pit 41 1/2 inches (1050 mm) wide, recessed at 46 3/4 inches (1190 mm) for a bell of 16 cwt.

The date of the four-bell frame is probably c. 1450, and the pit for the additional bell which was certainly there in 1552[3] was probably constructed in c. 1480[4]. The timbers between which the treble bell hangs are approximately 7 inches (175 mm) wide and are shaped to set the bearings of the bell at a height of about 16 inches (400 mm) above the level of the frame-heads of the four-bell frame [5]. The ends of this additional structure are not closed by a top cill, since the timber would obstruct the swing of the 2nd and 3rd bells in the lower frame. The reason for raising the bearings of the treble bell is to give a greater radius between the bearings of the bell and the nearest horizontal obstruction, thus allowing a bell which would have been too large to be hung level with the other four bells in the vacant central space of the lower frame to be mounted above it. By setting the bell-pit at a slightly oblique angle, the swing of the clapper (which requires a greater radius that the lip of the bell) is accomodated without paring away timber from frame-heads in the lower frame. The additional pit has a clearance of 32 inches (810 mm) and is just wide enough for its present occupant, the pre-Reformation treble bell. There is every reason to suggest that the bell-frame at Bressingham represents an almost unaltered frame of c. 1450 with a single additional pit of c. 1480.

1. See diagram A, p. 164.
2. See diagram C, p. 166.
3. See above, p.163.
4. See above, p.163, note 7.
5. See diagrams D and F, p. 166.

Diagram C.
Section through bell-frame showing truss design



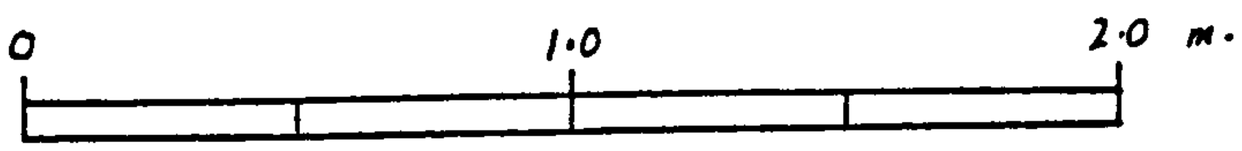


Diagram D.

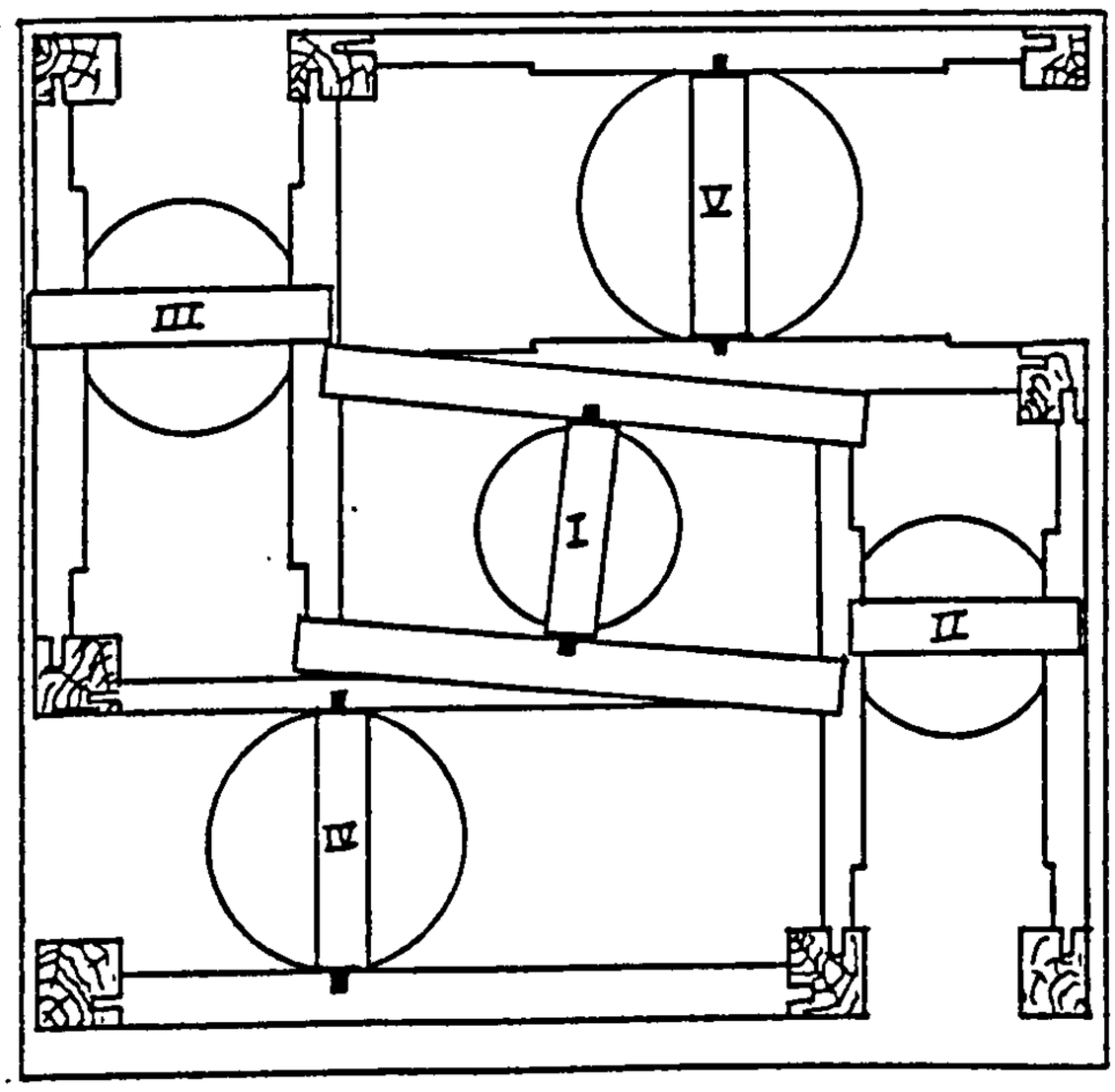
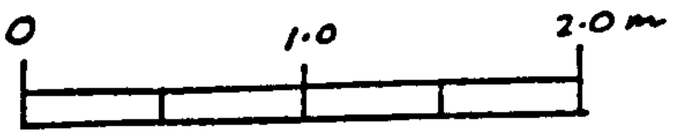


Diagram E.

Elevation of beams supporting the treble bell.



Plan of the bell-frame as extended for five bells.

BURSTON, St Mary the Virgin. February 1982.

The tower was not rebuilt after it collapsed in 1754[1], and the single bell now hangs in a substantial cupola on the west end of the nave roof. The cupola is inaccessible without scaffolding, and the bell has not been examined. From ground level it appears to be an old bell and is probably that recorded by L'Estrange[2].

1. IOHN DARBIE MADE ME 1683.

The 1552 Inventory records bells of 4 cwt, 6 cwt, 8 cwt and 12 cwt.

Blomefield[3] describes a round tower with an octagonal belfry and gives the inscription on one of the five bells[4] as:

Quaesumus Andrea Famulorum suscipe vota.

DICKLEBURGH, All Saints. August 1978.

The square, unbuttressed west tower is of two stages with a single stringcourse at a height of about 35 ft (11 m) and has a vise which is contained in a brick turret at the north-east corner. The lowest stage of the tower is of rough flintwork with limestone quoins, and there is a west window of three lights beneath a shallow arch. The belfry stage, completing a total height of about 55 ft (17 m), is of flint and the rendering of the south side conceals a number of repairs which were executed in brick[5]. There are similar two-light sound-windows with traceried heads on the north and south sides of the tower, the west side has a two light window with simple 'Y' tracery, and the east side has a square frame for the clock face. The inside of the tower confirms the evidence of Ladbroke's lithograph of 1828[6] that, before the installation of the clock, there was a sound-window of the same type as those on the north and south sides of the tower. The inside of the bell-chamber shows that the tower has been increased in height at least once, and that all except the west window opening have been remodelled. Ladbroke's lithograph also shows that the present chequered and embattled parapet is a more recent addition to the tower. No evidence has been traced for the date of the tower, or of alterations to it, but there is evidence for building work at the church in 1417[7], which might have included the original tower. A bequest in 1494 suggests considerable building activity, as well as the leading of a roof, and a further bequest in 1503 implies that the south aisle was nearing completion[8]. The traceries in the windows of the aisle and of the clerestory are very similar, and it is probable that the tower was increased in height and remodelled at the same time

1. Faculty petition, PD 101/14.
2. CBN., p. 112.
3. Blomefield I, 126.
4. *Ibid.*
5. The writer remembers the re-rendering of the south face in c. 1960.
6. Ladbroke.
7. C&C.
8. C&C.

as the church roof was raised in c. 1500. Major repairs to the tower in 1726-1727[1] included placing anchors (which are still in place) across the tower and stopping up major cracks.

The bells are a ring of six, tenor diameter 41 3/4 inches (1060 mm) weighing approximately 11 1/2 cwt and sounding F sharp.

1. JOHN TAYLOR & CO FOUNDERS LOUGHBOROUGH.
   FOR SERVICES RENDERED TO THE CHURCH
   AND PARISH OF DICKLEBURGH
   A. O. DENT. W. J DRAPER
   A. R. WOODS G. B. FAIRWEATHER
   1958

2. TAYLOR & SONS FOUNDERS LOUGHBOROUGH. LONG LIVE THE QUEEN 1857

3. + Sonitus Egidii * Ascendit Ad Culmina Celi

4. + Dulcis Cisto Melis * Campa' Vocor Mich'is

5. + Sum Rosa Pulsata * Mundi Maria Vocata

6. TAYLOR FOUNDER LOUGHBOROUGH
   FOR THE SERVICE OF GOD
   GEORGE STEVENSON A.M. RECTOR.
   WILLIAM SMITH & HENRY HOWLETT
   CHURCHWARDENS 1857

The 1552 Inventory records bells of 6 cwt, 8 cwt, 10 cwt and 12 cwt, and 3, 4 and 5 were probably cast at the pre-Reformation Norwich bell-foundry by Richard Brasyer I[2]. A faculty petition[3] of 1726 requests permission to increase the bells from four to a ring of five, and details of small bells remaining at the church at the time are of interest:

> 'your petitioners are desirous of melting down some metal which they have .... A little clock bell was blown down by a storm about 20 years ago, and has never since been made use of, which weighs about 100 li. weight. Two other very small bells, one called a Saints bell which hung between the Church and the Chancell, the other formerly a Repeating bell within the church, but laid aside time out of mind ...'

Work undertaken by John Stephens of Norwich in 1727[4] involved recasting the tenor bell and the addition of a new treble, and a new frame for the ring of five bells was made by Thomas Seaman. The writer remembers that the timber bell frame, which was similar in plan to that at Tivetshall St Margaret and set diagonally in the tower, was removed in 1957 to make way for a new metal frame, designed to take the ring of six bells completed in 1958[5].

1. Churchwardens' accounts, examined at the church.
2. See p. 431.
3. Copy examined at the church. 4. See note 1.
5. The writer was present when the five bells were rung in the old frame for the last time on 26 November 1957.

DISS, St Mary the Virgin. August, 1979.

The ground-plan of the tower, which abuts directly on the street, has an archway open to the churchyard on each of the north and south sides, with a doorway through to the nave on the east side[1]: a stairway in the thickness of the west wall rises to the level of the first floor, and there is a pair of massive buttresses at right-angles at each of the north-west and south-west corners. The tower, which is built of flint with dressings of limestone, has a single lancet window to the stairway, lancet lights to the first floor chamber on the north and west sides, and four sound-windows with simple 'Y' tracery. The only decoration of the tower is found in the flushwork of the buttresses and the chequered parapet, and in a pair of stooled niches on the west faces of the buttresses. The east face shows the weathermould of the steeply-pitched roof of an earlier nave, with a doorway at the apex of the old roof-line. Although there was a bequest for bells in 1439[2] no documentary evidence for the date of the tower has been discovered, but the simplicity of the design, as well as the style of the building, indicate that the tower may well be of c. 1300, as suggested in the church guide book[3].

The bells are a ring of eight, tenor diameter 55 1/2 inches (1410 mm), weighing 23 cwt 2 qr 27 lbs[4] and sounding D.

1. PROSPERITY TO THE TOWN OF DISS

2. SUBSCRIPTION PEAL CAST IN THE YEAR MDCCCXXXII

3. PEACE AND GOOD NEIGHBOURHOOD

4. OUR VOICES SHALL WITH JOYOUS SOUND
   MAKE HILLS AND VALLEYS ECHO ROUND

5. WILLIAM DOBSON FOUNDER DOWNHAM NORFOLK MDCCCXXXII

6. THOMAS LOMBE TAYLOR SAML. FARROW SAML. BROOK & CHAS
   ALGER OF THE COMMITTEE CHAS BARKWAY SECRETARY

7. WILLIAM FINCHAM AND IAMES LUCCOCK CHURCHWARDENS

8. REVD. WILLIAM MANNING M.A. RECTOR WILLIAM DOBSON FOUNDER 1832

1. The suggestion that this unusual arrangement may have been to enable processions to complete a circuit of the church without leaving consecrated ground is made in the guide book to the church (E. Pursehouse and G. G. Daniels, *The parish Church of St. Mary the Virgin, Diss*, Diss, 1961, p. 2). A similar arrangement, where a tower stands close to a public road is seen at Riddlesworth and at St Peter Mancroft, Norwich.
2. C&C.
3. Pursehouse and Daniels, *loc. cit.*
4. Framed notice in the ringing chamber.

The 1552 Inventory records a single tower bell of 6 cwt, with a little bell weighing 2 cwt in the chancel, and there is also a note that two bells were then in the hands of Henry, Earl of Suffolk.

The inscriptions on the bells removed in 1832, together with their weights, are recorded on a framed sheet of paper in the ringing chamber as follows:

1. Weight: 4 cwt 0 qr 1 lb.
   Mr Iames Betts & Mr Charles Punchard CW 1741

2. Weight: 4 cwt 0 qr 24 lb.
   Mr Iames Betts and Mr Charles Punchard 1741

3. Weight: 3 cwt 3 qr 15 lb.
   Omnia Leta Fac Margorem Nobis

4. Weight 5 cwt 1 qr 10 lb.
   Mr J. Pettett Tho. Hubbard CH.WARDENS
   John Goldsmith Fecit 1712

5. Weight 6 cwt 1 qr 26 lb.
   Mr Iames Betts & Mr Charles Punchard CW
   Thomas Newman Fecit 1741

6. Weight 8 cwt 0 qr 4 lb.
   Thomas Newman Fecit
   Mr Iames Betts & Mr Charles Punchard CW 1741

7. Weight 11 cwt 0 qr 12 lb.
   Nos Regna Ornata Virgo Coronata Duc

8. Weight 15 cwt 0 qr 2 lb.
   IOHN DARBE made me 1683 C*R

Two of the inscriptions appear to be miscopied versions of formulae frequently found on pre-Reformation bells, and the corrected readings may have been:

3. Fac Margareta Nobis Hec Munera Leta

7. Virgo Coronata Duc Nos Ad Regna Beata

The recorded payment of £9-01-00 in 1686[1] to Mr Darby of Ipswich would not have been sufficient to recast the 15 cwt bell dated 1683[2], and must refer to a bell of about 8 cwt. The bells were a ring of five until 1691 when a new treble was added by Charles Newman, who was then working at Botesdale[3]. The weight of the new bell is given as 5 cwt 0 qr 17 lb, and this would suggest that the completed ring of six had a

1. The churchwardens' accounts begin in 1686 (NRO., PD 100/62), and the sum of money has been compared with contemporary works at other churches through various churchwardens' accounts examined.
2. See framed notice, quoted above.
3. Diss parish papers. NRO. PD 100/77.

tenor of approximately 20 cwt[1]. The considerable sum of £12-00-00, which was paid to John Goldsmith for recasting bells in 1712-1713, would have been sufficient to increase the ring from six to eight by recasting the 20 cwt tenor into three lighter bells, as well as recasting the 1691 bell[2]. A sum of £23-15-00 paid to Thomas Newman in 1741 is just sufficient to account for recasting bells without addition of new metal and is, therefore, less likely to refer to the increase of the ring from six to eight bells than the payment to John Goldsmith in 1712-1713[3].

The apparently pre-Reformation 3rd bell in the old ring of eight[4] was too light to have formed part of the earlier heavy ring of six, and may well have been introduced as a secondhand bell when the ring was augmented to eight[5].

The bellframe installed in 1832 for the new ring of eight was constructed by Messrs Farrow and Whaite of Diss, and the bells were hung by Mr Burges of Brockdish[6]. In 1984 a comprehensive restoration of the bells included the provision of a new metal bell-frame[7].

The sanctus-bell cote on the east gable was, in Blomefield's time[8], occupied by a bell inscribed:

Sancte Gabriel ora pro nobis.

It is said to have been removed to the Diss almshouses in 1840 and has now been lost[9].

1. The weight of the new bell is recorded in the contract (PD 100/77) and has been compared with the weights of the ring of six at South Lopham (visited January 1978), which are 5 1/2 cwt, 6 1/2 cwt, 8 1/2 cwt, 10 cwt, 14 cwt and 20 cwt.
2. See note 1, p. 170. The third bell of the six would have needed retuning in addition.
3. See note 1, p. 170.
4. The inscriptions on the third and seventh bells, as recorded on the framed notice, suggest that they were pre-Reformation bells.
5. A ms. note dated 1712 (NRO. Frere Mss., Giltcross Hundred, Kenninghall bundle.) records the inscriptions on all five bells then in Kenninghall tower, and comparison with the present octave (visited July, 1979) shows that the two existing pre-Reformation bells, one of them a Londoner, were not present in 1712. It seems most likely that the octave installed at Kenninghall in 1743 by Thomas Newman was made up from secondhand bells which the founder had in stock and to which he added bells of his own casting: a similar explanation might well account for the pre-Reformation bells which were formerly at Diss.
6. Churchwardens' accounts, PD 100/62.
7. The restoration was completed and the writer was present when the bells were rung for the first time on Wednesday April 4, 1984.
8. Blomefield I, 20.
9. Pursehouse and Daniels, *Op. cit.*, p. 4.

FERSFIELD, St Andrew. June, 1978.

The unbuttressed rectangular west tower, which measures only 6 ft (1.85 m) east-west by 8 ft 6 inches (2.60 m) north-south internally, is built of flint with details of limestone. There is a west doorway beneath a two-light window with a traceried head, and the sound-windows are simple openings with cinquefoil heads: between the west window and the sound-window are three shields carved on blocks of limestone. Blomefield assigns a 14th-century date to the lower part of the tower on the strength of the heraldry[1], but the west window, which does not appear to be an insertion, is of the style favoured by 15th-century Norwich masons[2]. The tower was clearly complete by 1494, when a ringers gallery was installed to enable the bells to be rung during processions without obstructing progress through the west doorway[3].

There is a single bell, diameter 32 1/4 inches (820 mm) weighing approximately 6 1/2 cwt.

1. THOMAS OSBORN FECIT ME 1801
   THOS. GAROOD THOS. WOODS CHURCHWARDENS.

The 1552 Inventory records bells of 3 cwt, 4 cwt and 5 cwt, and Blomefield[4] records two bells in the tower in 1736, stating that a bell which was split when the tower was struck by lightning in about 1660 had been sold in 1706.

The unusual design of the bell-frame[5] is accounted for by the small size of the tower. All three bell-pits have trusses with king-posts and long frame-heads: the king-posts are supported by inclined braces which are, in turn, mortised into the vertical end-posts of the bell-pits. The end posts of the bell-pits are extended well above the level of the frame-heads to support top-cills at a height which allows bells of the largest possible size to swing up without meeting a horizontal obstruction at the usual level of the frame-heads. The existing bell-pits are arranged as follows:

> North pit 34 1/4 inches (875 mm) clearance to accomodate the existing bell: it has been widened from approximately 26 inches and would have been adequate for a bell of 4 cwt.
> Middle pit 20 1/2 inches (520 mm) narrowed from a width of 28 inches, which would have been adequate for a bell of 4 3/4 cwt.
> South pit 24 1/2 inches (620 mm) designed for a bell of 3 cwt.

The timbers of the frame are built into the tower, and it seems probable that the design of the frame is late 15th-century; it would appear that the north pit was widened when the present bell was installed.

1. Blomefield I, 102.
2. See, for example, Norwich, St. Peter Hungate.
3. 1493, Jeffery Elingham of Fersfield. NCC Awbreye 141.
   'Item volo quod executores mei faciant unum solarium in campanile dicte ecclesie obsimile et instar solario in campanile ecclesie de Estharlyng ut processio festivis diebus subter pulsantes procedat ...'
4. Blomefield I, 102.
5. See diagrams, p. 173.

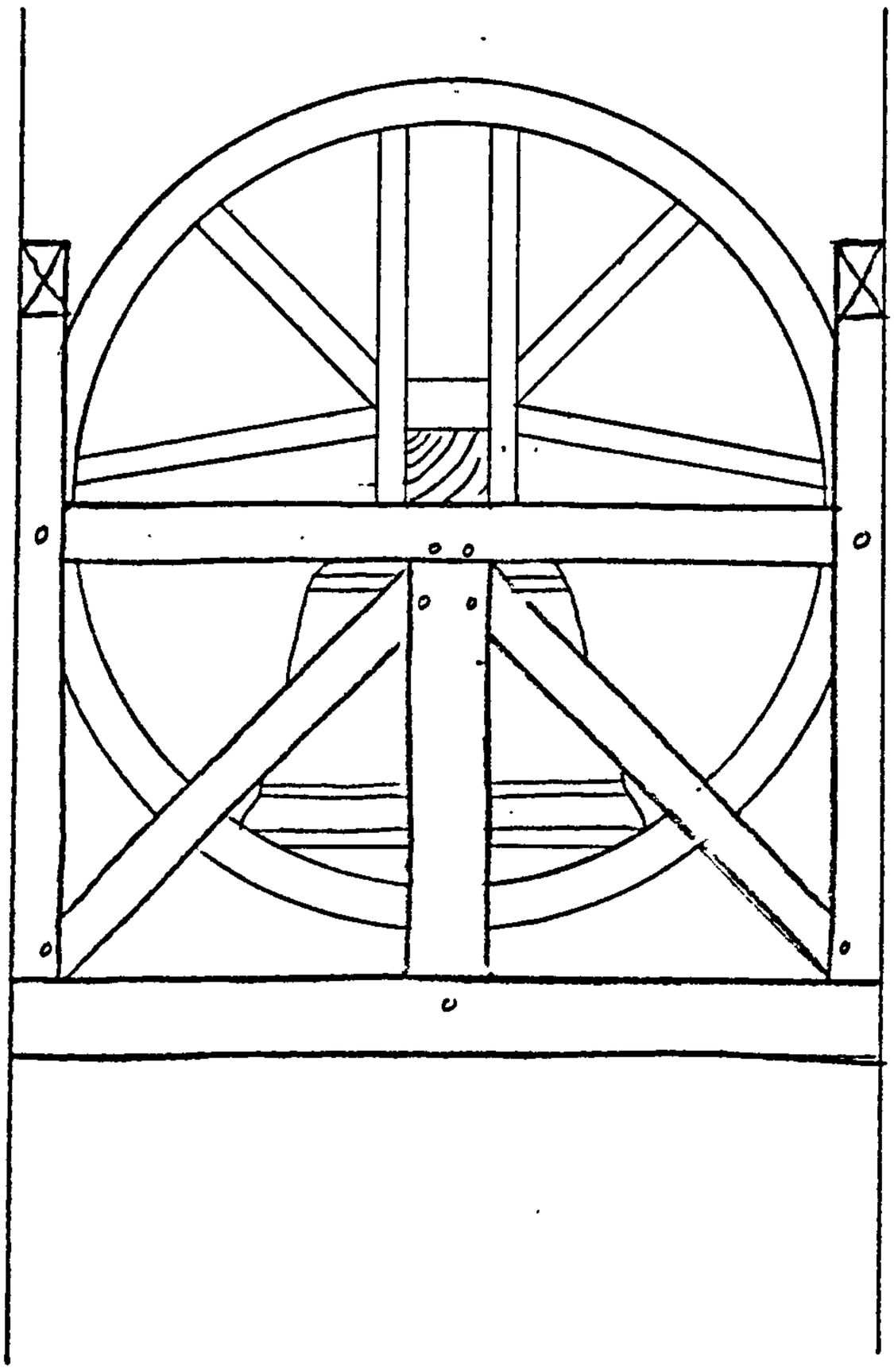


Diagram of bell-frame.

FRENZE, St Andrew. July, 1980.

The appearance of the west wall suggests that the church, which is very small, has never had a tower, and there is no extant Inventory for 1552 which might have confirmed the absence of large bells. The existing bell hangs in a small, inaccessible, cupola on the west end of the church and was not inspected.
L'Estrange[1] obtained details of the inscription on the bell from the Rector:

1. + John Goldsmith made me 1707

1. CBN, p. 134.

GISSING, St Mary the Virgin. July 1978.

The round west tower, which is considered to be Anglo-Saxon or Norman [1], is constructed of flint with details of limestone and appears to have suffered little from later alterations.

The bells are a ring of five, tenor diameter 40 inches (1016 mm) weighing approximately 12 cwt and sounding G.

1. 1832
2. GOD BLESS THE CHVRCH AND CON FOUND HER ENEMIES 1670 I D.
3. NOS : JESU : MERITIS : MEREAMVR : GAVDIA : 1670 I D
4. Defunctos : ploro : Pestem : fugo : Festa : decoro : 1670
5. WILLIAM DOBSON, FOUNDER, DOWNHAM NORFOLK. 1832.

The 1552 Inventory records bells of 5 cwt, 9 cwt, 12 cwt and 14 cwt; and of the existing ring 1 is by William Dobson; 2, 3 and 4 are by John Darbie of Ipswich. Blomefield[2] records the inscriptions on the two smaller bells as follows:

1. GOD BLESS THE CHURCH AND CONFOUND HER FOES
2. Run'd out of one by MR. JOHN GIBBES, RECTOR.

He records the inscription on the existing fourth bell (which he states as being on the third bell of the ring of five) but, curiously, does not mention the inscription on the other contemporary bell which remains. It would appear that the work on the bells was done at the expense of John Gibbes, who was Rector from 1668 to 1690[3], since there is no mention of it in the contemporary churchwardens' accounts[4]; and it seems likely that the bells were increased from four to five in 1670 by recasting one large bell into two smaller bells, and avoiding retuning by recasting two other bells. The restoration of 1832[5] involved the construction of a new bell-frame and the replacement of two of the old bells by new ones. The 1832 bells, which are of excellent quality, are quite out of scale with the three 17th-century bells[6], and the curious tuning of the ring (sounding down the scale as E, D, C, B, G) suggests that the new bells were bought from stock rather than recast to suitable notes from older bells.

1. Pevsner, p. 172.
2. Blomefield 1, p. 165.
3. *Ibid.*
4. Churchwardens accounts. NRO. PD 50/37.
5. Churchwardens' vouchers NRO. PD 50/39.
   Work on the bell-frame is recorded, but there is no mention of the new bells then hung. There are no extant churchwardens' accounts for the period.
6. The weights of the ring are approximately 5 cwt, 4 cwt, 5 3/4 cwt 6 cwt and 12 cwt.

ROYDON, St Remigius. May, 1979.

The two lowest stages of the west tower, which are constructed of flint and rendered with plaster, are round; and the octagonal bell-chamber is faced with knapped flint beneath an embattled parapet. The west window has simple 'Y' tracery and there are four sound-windows of two lights. There had been a faculty petition in 1680[1] which stated that the tower was too weak to support the four bells then hanging, and sought permission to sell three of them and apply the proceeds to the repair of the tower. Ladbroke's lithograph of 1823[2] shows a round tower which is lower in height than the church itself, and it is likely that a taller tower was reduced in height before 1823. The present upper stages of the tower were completed between 1846 and 1859[2].

There is a single small bell, diameter 14 inches (355 mm) weighing approximately 3/4 cwt.

1. J WARNER & SONS LONDON 1866.

The 1552 Inventory records bells of 6 cwt, 6 1/2 cwt and 8 1/2 cwt, and L'Estrange[4] noted a ring of three bells, tenor 9 cwt in G:

1. C & G MEARS FOUNDERS LONDON 1850
   TEMPLE FRERE RECTOR
   WM. ANNESS HENRY PACKLAND CHURCH WARDENS

2. C & G MEARS FOUNDERS LONDON 1850
   GEO. EDWARD FRERE

3. C & G MEARS FOUNDERS LONDON 1850
   BARTHOLOMEW FRERE.

Blomefield[5] notices the faculty of 1680 for the sale of bells and records the inscription on the remaining bell as:

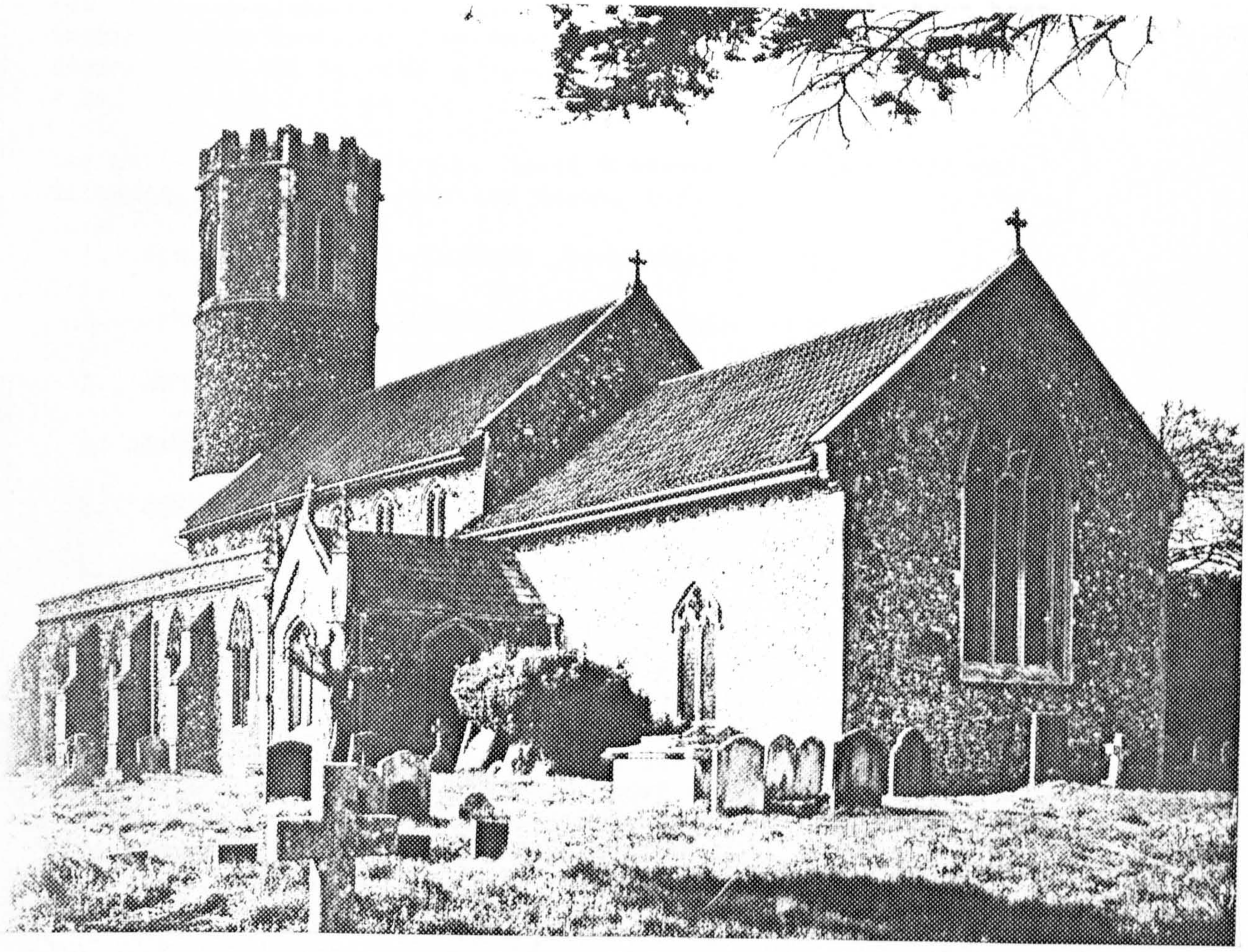
1. Petrus ad Aeterna ducat nos Pascua Vite.

The bell-frame, designed for three bells, is of pitch-pine and is supported on massive vertical beams which rise from the floor, thus making the structure independent of the tower walls for support. It appears to date from the major restoration of 1850.

1. NRO., NDR., FCB. 1, fo. 85.
2. Ladbroke.
3. T. H. Bryant, *The churches of Norfolk: Hundred of Diss*, Norwich, 1915, p. 209.
4. CBN., p. 202.
5. Blomefield I, 41.

ROYDON

April, 1984.



Round tower, with octagonal belfry of 1846 - 1859.

SCOLE, St Andrew. June, 1978.

The square west tower, which rises to a height of about 55 ft (17 m) with no external divisions apart from the chequered and embattled parapet, was saved from the worst effects of a fire which destroyed the body of the church in 1965[1]: it is unbuttressed, and is constructed of flint with external dressings of limestone but with brick soffits and jambs to the insides of the sound-windows. There is no west doorway, and the west window is of two lights with a traceried head: small rectangular slits light the first-floor chamber, and the four sound-windows have simple Y tracery. No bequests have been traced to the fabric of the tower which appears, from its design and construction, to be 15th century.

The bells are a ring of six, tenor diameter 28 inches (710 mm), weighing 4 cwt 1 qr 8 lbs[2] and sounding C.

1. JOHN TAYLOR & CO FOUNDERS LOUGHBOROUGH 1965
2. JOHN TAYLOR & CO FOUNDERS LOUGHBOROUGH 1965
3. JOHN TAYLOR & CO FOUNDERS LOUGHBOROUGH 1965
4. JOHN TAYLOR & CO FOUNDERS LOUGHBOROUGH 1965
5. JOHN TAYLOR & CO FOUNDERS LOUGHBOROUGH 1965
6. IOHN BREND MADE ME 1655
   RECAST 1966

The 1552 Inventory records a single bell of 5 cwt. The 1655 bell, which was retained as a tenor when the bells were first hung after the fire of 1965 but did not blend at all well with the five lighter bells, was recast in 1966[3] by Taylors of Loughborough. The inscription ring from the old tenor bell remains in the ringing-chamber. The metal bell-frame was installed in 1965 at which time the old timber frame was removed.

1. See dedication stone inside the church.
2. Framed founder's notice in the tower.
3. The writer remembers the restoration, and ringing on the bells before and after the recasting of the 1655 bell.

SHELFANGER, All Saints. August 1979.

The square tower, which is asymmetrically placed at the west end of the unaisled nave, is constructed of flint with dressings of limestone and has diagonal buttresses at the north-west and south-west corners. The only external division is a string-course at the level of the bell-chamber, and the parapet is of chequered flint and limestone. It would appear that the tower may have been associated with a narrower church which was enlarged by pulling down the south wall and widening the nave on that side. Bequests suggest that the widening was contemplated in c. 1487 when money was left towards completing the church[1]; and the tower may well be 14th century on the evidence of the style of the bell-chamber lights, the circular ventilator[2] to the first-floor chamber of the tower, and the absence of brick in the structure of the interior walls.

The bells are a ring of six, tenor diameter 31 3/4 inches (806 mm) weighing 5 cwt 1 qr 26 lb and sounding B flat[3].

1. TO THE GLORY OF GOD AND IN MEMORY OF
   FREDERICK AND LOUISE ROPER
   PRESENTED BY FREDERICK C. AND CECILIA ROPER.
   1974

2. PACK & CHAPMAN OF LONDON FECIT 1772

3. PACK & CHAPMAN OF LONDON FECIT 1772

4. PACK & CHAPMAN OF LONDON FECIT 1772

5. PACK & CHAPMAN OF LONDON FECIT 1772

6. thomas draper me fecit 1582

There was a bequest towards a new bell in the tower in 1517[4], and the 1552 Inventory records bells of 6 cwt, 8 cwt and 10 cwt. When the bells were restored in 1974 the timber bell-frame, which was set diagonally in the tower[5], was replaced by a metal frame for six bells and tne new treble was added by Taylors of Loughborough.

1. C&C.
2. Round windows are found in a number of local churches which are usually described as 14th century, and they are specifically mentioned in the accounts for the building of the new detatched tower at Norwich Cathedral in 1305 (Obedientiary Rolls. NRO. DCN Sacrist Roll 223).
3. NDA.
4. 1517. Henry Prentise of Shelfanger. NFK Batman 175.
5. Information from Mr F. C. Roper, churchwarden.

SHIMPLING, St George. December, 1978.

The tower is round for lowest 40 ft (13 m) or so, with an octagonal belfry completing a total height of about 55 ft (18 m); and a sketch of the tower in 1733[1] shows that the spire is a later addition. The tower has been rendered externally, but much of the plaster has fallen away to reveal the masonry. In the round section, which is constructed of flint with an intermixture of brick, limestone is used in the external details of the two-light west window, and brick is used extensively on the inside of the tower. At the level of the first-floor chamber in the round part of the tower, there are vertical piers of brick, dividing the wall surface into sections about 2 ft (610 mm) wide with a rubble filling between them. The internal details of the small two-light window to this chamber are of brick, and the vise, which is accomodated in a projection between the west wall of the nave and the south side of the tower, is almost entirely of brick. The upper, octagonal stage is constructed of flint with a considerable proportion of brick, which is also used for forming the internal and external angles of the octagon and for the internal jambs and voussoirs of the four sound-windows. The external details of the octagon include two-light sound-windows of limestone on the cardinal faces, whose traceries are copied on the intervening faces in limestone flushwork where a filling of dark knapped flint forms an excellent contrast.

The lower part of the tower would almost certainly have been complete when the nave of the church was remodelled in c. 1386[2], and the tall, two-centred arch to the nave suggests a rather earlier date. Late 15th century works to the tower probably included the insertion of the fine west window at the level of the ground-floor chamber, the stairway to the first-floor chamber, and the addition of the octagonal belfry. It would appear that the addition of the belfry to the round tower was accompanied by modifications to the earlier structure, and the vertical bands of brick in the first-floor chamber may originally have been piers inserted to support the octagonal bell-chamber[3]. It is clear that the weakness of the round tower caused further works to be undertaken after the addition of the belfry stage[4], and it is suggested that the spaces between the brick piers were filled in at a later date to strengthen the tower. The construction of the piers and the subsequent infilling has covered any internal evidence of former openings at the level of the first-floor chamber, where the bells probably hung before the octagon was added. The similarity of the design of the octagon with those at nearby Thorpe Abbots[5] (c. 1503) and Needham[6] (c. 1464), together with a bequest for bells at Shimpling in 1466[7] suggests that the belfry was completed in about 1470.

1. NRO., Rye Mss., no. 17.
2. C&C.
3. See notes on Bedingham for comparison.
4. The two iron bands round the tower are evidence of such weakness.
5. C&C.
6. C&C.
7. C&C.

SHIMPLING

April, 1984.

Round tower, with belfry probably of c. 1470.

The bells are a derelict ring of three, tenor diameter 33 1/2 inches (850 mm), weighing approximately 7 cwt and sounding B.

1. (+ Fac Margareta : Nobis Hec Munera Leta)

2. (+ Missus De Celis : Habeo Nomen Gabrielis)

3. IOHN BREND MADE ME 1658

The 1552 Inventory records bells of cwt, 2 cwt, 3 cwt and 4 cwt. 1 and 2 are pre-Reformation bells, from the Norwich bell-foundry, whose inscriptions have been heavily mutilated with a cold-chisel and can only be recovered with moderate certainty: the founders' marks which remain are consistent with a date of c. 1466[1]. One of the four bells recorded by L'Estrange[2] has disappeared and it would appear that it was the smallest of the ring of four, inscribed:

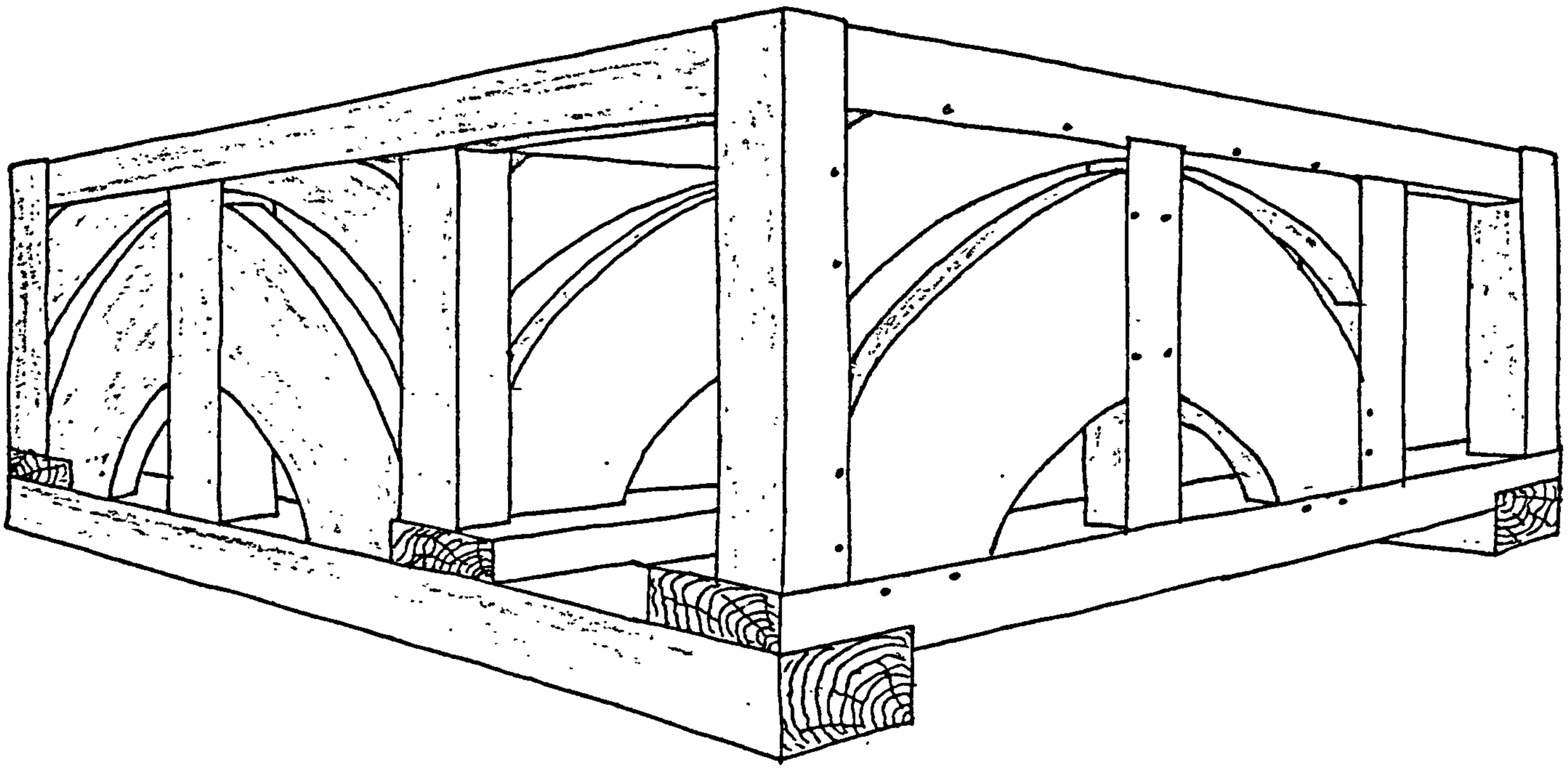
IOHN GOLDSMITH FECIT 1711.

Examination of the bell-frame, which is reached by means of a long and worm-eaten ladder, is difficult since only one of the bell-pits has a floor. The existing frame, although repaired in 1808[3] and much damaged by weather since then, retains a great deal of old timber, and has every appearance of being contemporary with the octagonal belfry. The frame is designed for four bells to swing parallel to four walls of the belfry around a central rectangular space. The foundations[4] of the frame are on two levels at the lower of which four beams 15 inches (380 mm) wide by 8 inches (200 mm) deep span the tower from north-west to south-east; these beams are built into the walls of the octagon. The higher level of the foundations consists of two long beams and two short beams: the long beams run the full width of the frame at right-angles to the lower foundations and are placed at the outer edges of the frame, while the shorter beams form the lower cills of two of the bell-pits and the edges of the central trap of the bell-frame; these beams are 11 1/2 inches (290 mm) wide by 6 1/4 inches (160 mm) high. It was impossible to examine the details of the jointing between the two levels of foundation beams, since there is no floor.

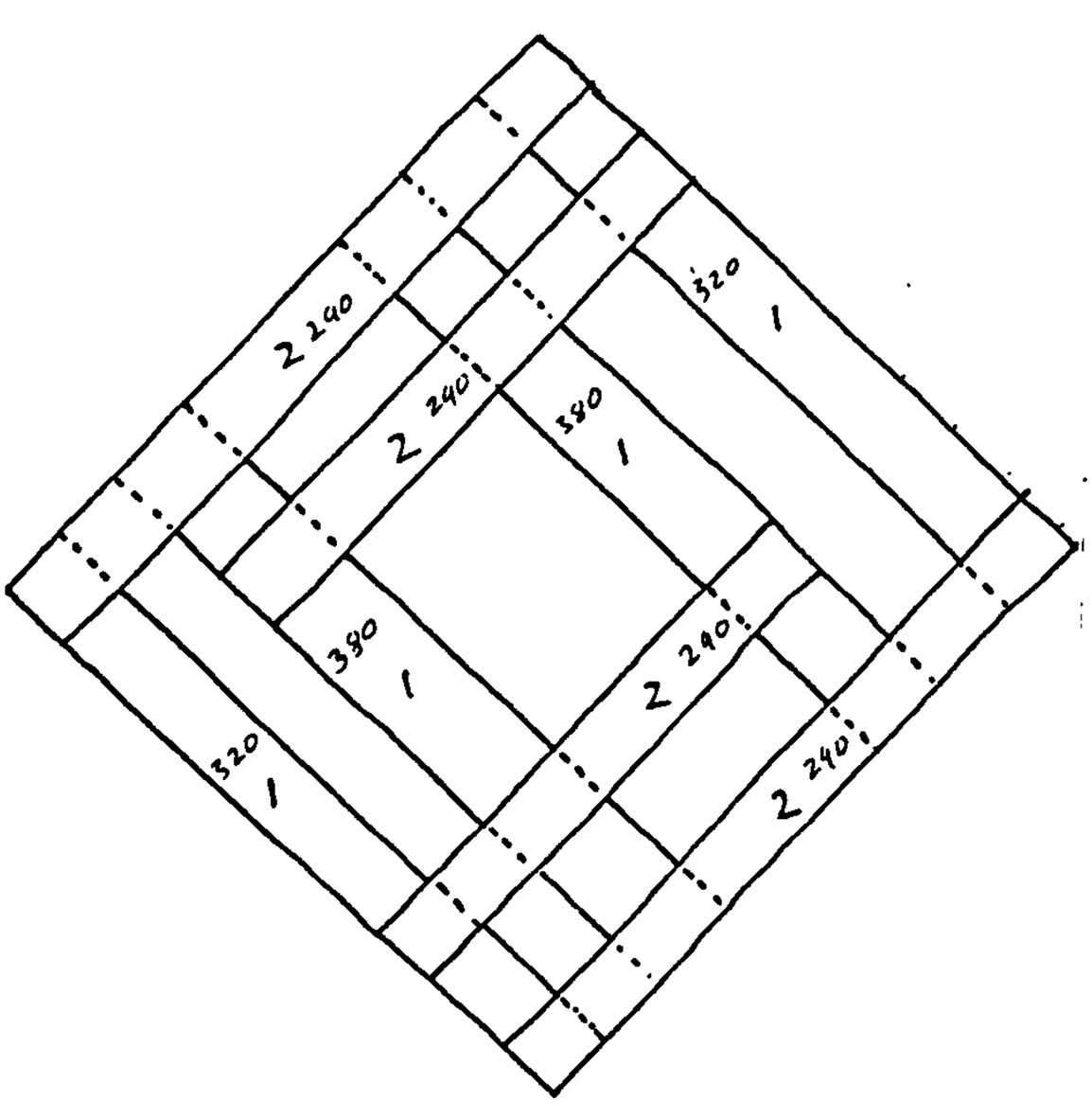
1. See p. 421.
2. CBN., p. 209.
3. Churchwardens' accounts, NRO., PD 102/32.
4. See diagram, p. 182.

SHIMPLING, St George. December 1978.

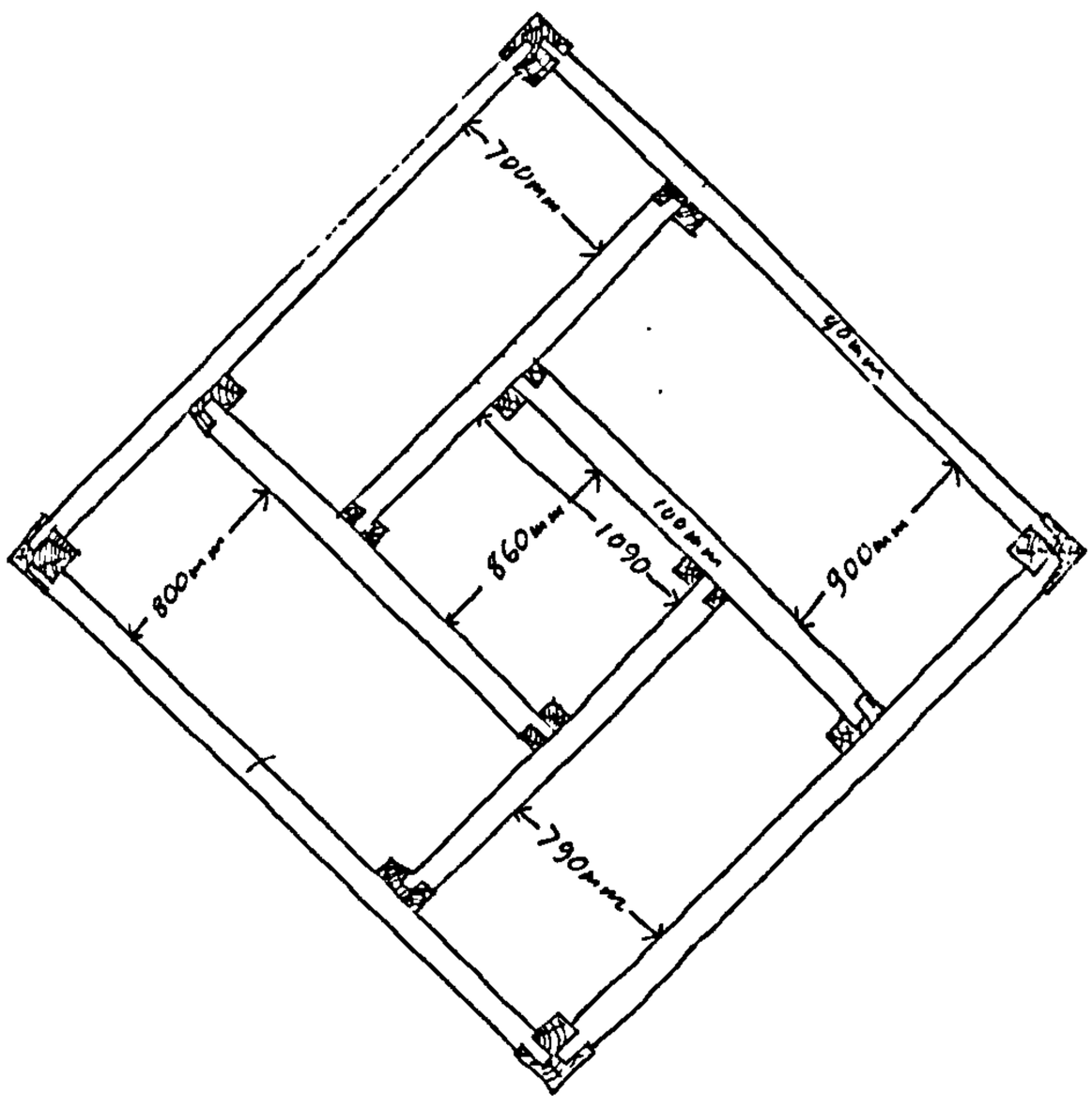
Perspective sketch of the bell-frame.



Foundations of bell-frame sketched at 1:50.



Frame-heads of bell-frame sketched at 1:50.



The vertical posts which support the frame-heads are of four types according to their positions in the frame:

1. Around the central space the four posts are jointed at their top ends to allow one frame-head to pass through and a second frame-head to be mortised in at right angles. At their feet the posts have tenons which enter the upper level of the foundation beams.

2. The posts in the four outer corners of the frame each support two frame-heads in mortises, at right-angles. The lower ends are jointed to the upper level of the foundation beams.

3. The outer corner-posts of the bell-pits are similarly jointed to the type-2 posts at their top ends, supporting the end of one frame truss and allowing the top cill of the bell-pit at right-angles to pass through.

4. The outer king-posts of the bell-pits are jointed at their top ends by a simple mortise and tenon to the frame-heads, and at their lower ends to either the upper or lower foundation members according to their position.

The frame[1] trusses have very heavy curved braces from the lower members to the king-posts, and the top cills are not grooved to allow for the swing of bells which are wider than the pits. The design allows for a ring of four bells as follows:

North-west pit 27 1/2 inches (700 mm) for a bell of 3 cwt.

North-east pit 35 1/2 inches (900 mm) for a bell of 7 cwt.

South-east pit 31 inches (790 mm) for a bell of 4 1/2 cwt.

South-west pit 31 1/2 inches (800 mm) for a bell of 4 3/4 cwt.

The bell-frame appears to be a fairly complete survival from c. 1470.

THELVETON, St Andrew. August, 1981.

The church has no tower, and the bell hangs in a small inaccessible cupola. A faculty petition in 1761[2] stated that when a part of the steeple had fallen in March 1757, breaking the church roof and leaving a ruined stump, two bells had been split: permission was sought to apply the proceeds of the sale of the bells to erecting a cupola and buying a new small bell. The cupola is inaccessible without scaffolding, but there is no reason to doubt that the bell is as recorded by L'Estrange[3]:

1. 1762.

The 1552 Inventory records bells of 6 cwt, 8 cwt and 10 cwt.

1. See perspective sketch, p. 182.
2. NRO., NDR., FCB. 3, fo. 140.
3. CBN., p. 221.

TIVETSHALL ST. MARGARET. May, 1978.

The square unbuttressed west tower has a projection for a vise which rises to the level of the first floor at the south-east corner; it is constructed of flint rubble faced with knapped flint, and the external details, including the quoins and all details of windows and doorways, are of limestone: the parapet is panelled in flushwork. There is a west doorway with a traceried two-light window above, and a single narrow window opening lights the first-floor chamber; the four sound-windows are of two lights with internal details of brick. There was a bequest to the tower in 1457[1] and the existing tower appears to be of about that date.

There is a single bell, diameter 32 inches (815 mm) weighing approximately 6 1/2 cwt.

1. + SCE : (EDMUNDE) : PRO : ME : (INTERCEDE)

The bell is from the pre-Reformation Norwich bell-foundry and was probably cast by John Magges[2]. The parts of the inscription which have been badly mutilated with a cold-chisel are denoted by the bracketed words above. There was a bequest for a new tenor bell in 1498[3], and the 1552 Inventory records bells of 8 cwt, 10 cwt and 12 cwt. Four of the bells were sold in 1975 to pay for the rehanging of the remaining bell[4], and L'Estrange records a ring of five bells (noting that the tenor bell is cracked):

1. IOHN DARBIE 1670

2. IOHN DARBIE 1670

3. THOS. OSBORN FOUNDER DOWNHAM MARKET 1800
   WM. GEORGE CH. WARDEN

4. +: SCE : (EDMUNDE) : PRO : ME : (INTERCEDE) :

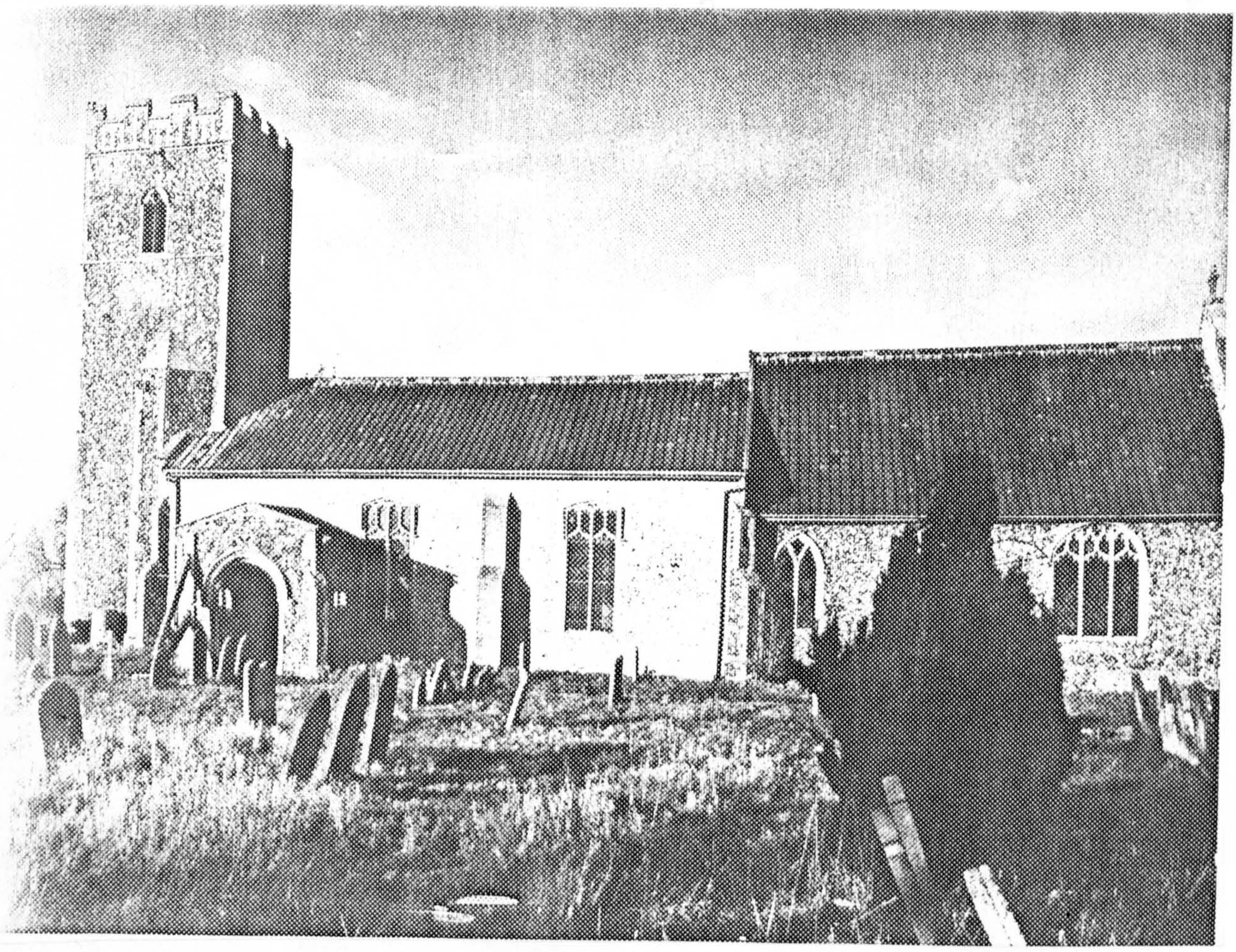
5. John Stephens fecit 1726
   John Gardner Chvrch Warden.

The timber frame for five bells which remains is set diagonally in the tower, and is arranged for two bells (1 and 2) to swing mouth-to-mouth, a pair of bells (3 and 4) to swing side-by side parallel to the trebles, and the tenor at right-angles[5]. The churchwardens' accounts for 1727[6] record the recasting of the tenor bell by Mr. Stephens of Norwich, and an entry in 1725 records the considerable expenditure of £31-07-01 1/2 to Mr Thomas Seaman for carpenter's work in the tower. The same name appears in the churchwardens accounts at Dickleburgh in 1726 - 1727[7] against a sum of £31-05-00 for a new five-bell frame, and it seems likely that the frame at Tivetshall dates from 1725.

1. C&C. 2. See p. 435.
3. 1498, William Nycoll of Tivetshall. NFK Shaw 46.
4. Information from Capt. E. H. Bennett, Churchwarden.
5. See diagram, p. 186. 6. NRO., PD 79/27.
7. See notes on Dickleburgh, p. 168.

TIVETSHALL ST. MARGARET.

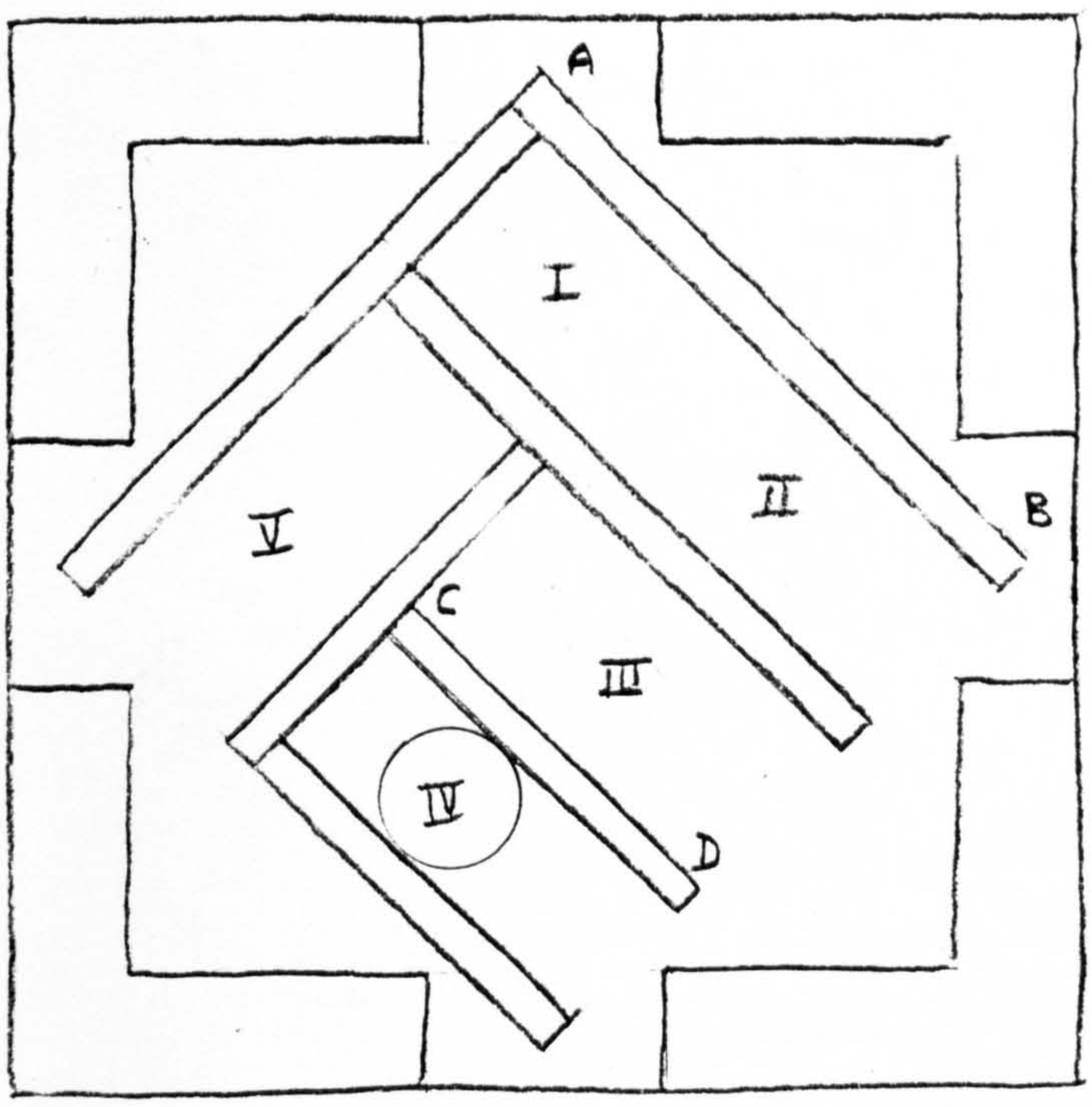
April, 1980.

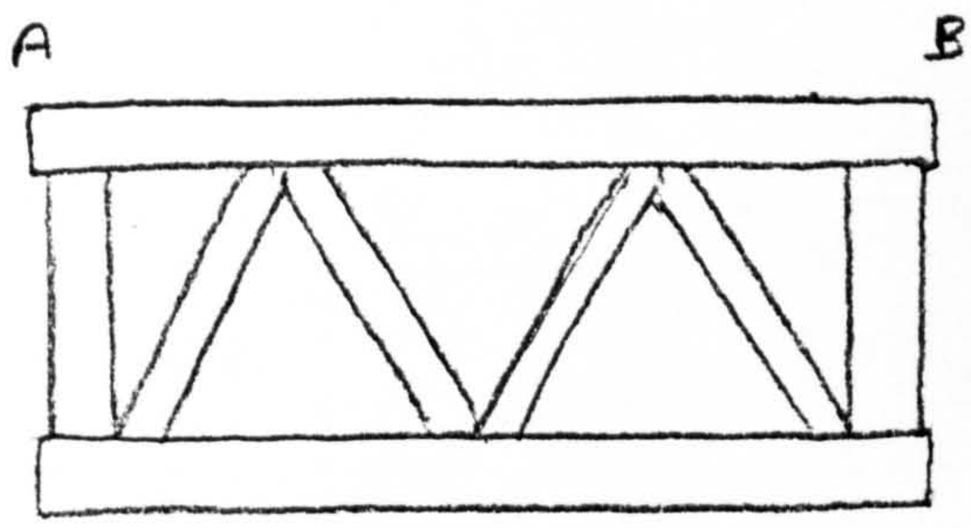


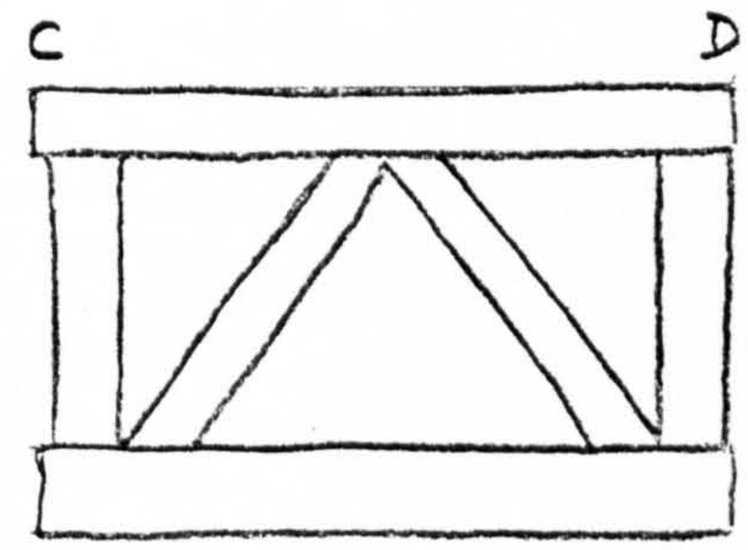
Square tower of c. 1457.

TIVETSHALL ST. MARGARET

Sketches of bell-frame.







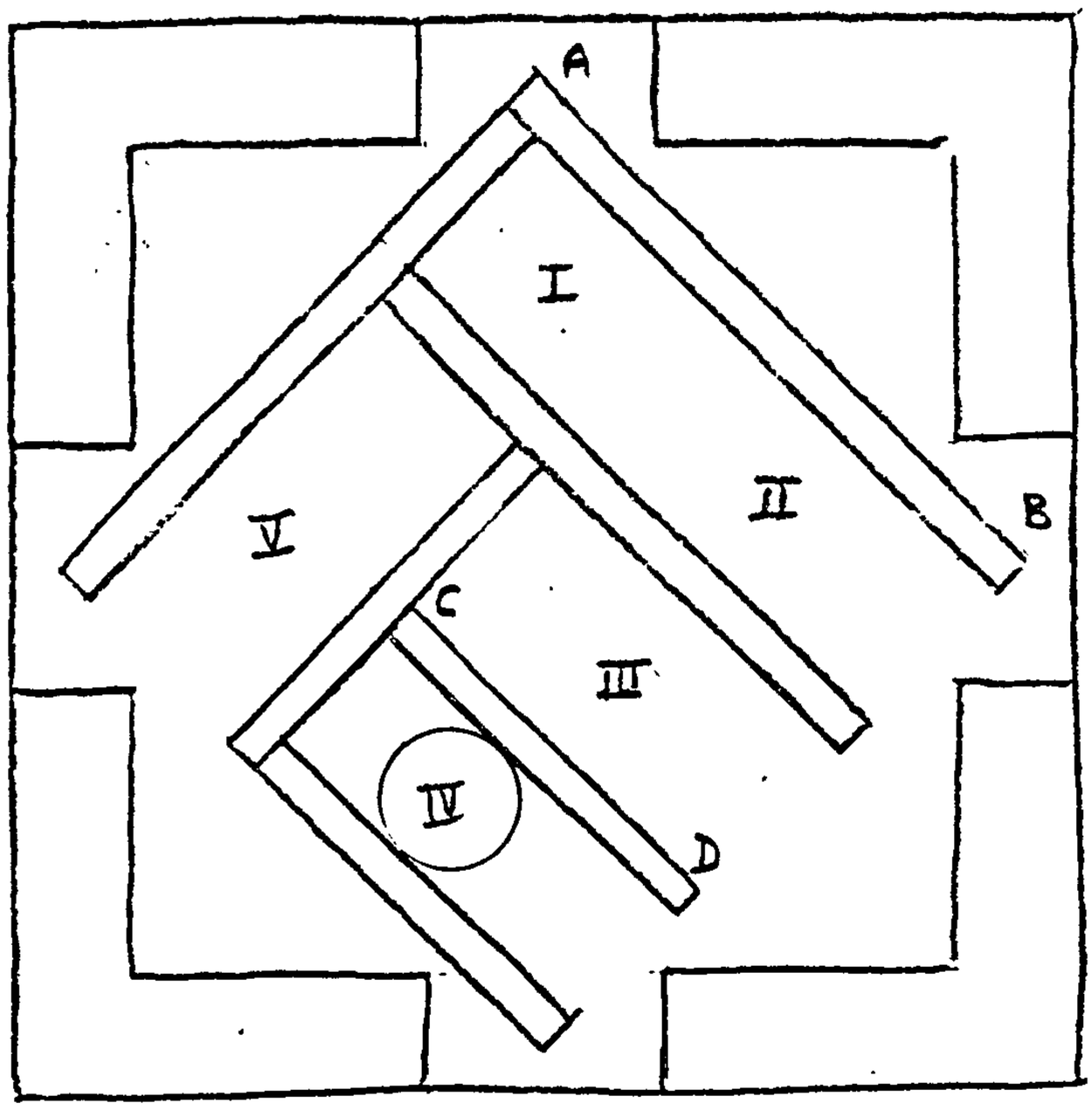
WINFARTHING, St Mary the Virgin. October, 1977.

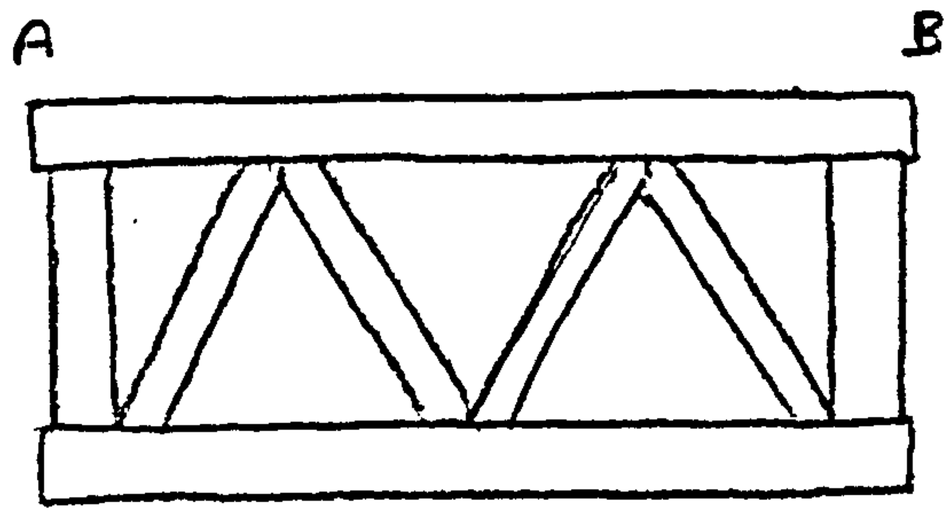
The square west tower is constructed of flint with dressings of limestone, and there are diagonal buttresses at the north-west and south-west corners: there is no west doorway and the ground-floor chamber has a fine three-light west window. The first-floor chamber has a narrow rectangular window opening to the west, and the sound windows on all except the east side where there is simple 'Y' tracery, are of two lights with traceried heads beneath two-centred segmental arches. No direct documentary evidence has been traced for the date of construction of the tower, but bequests for bells in 1484 and 1502[1] suggest a late 15th century date, which is supported by the style of the window openings.

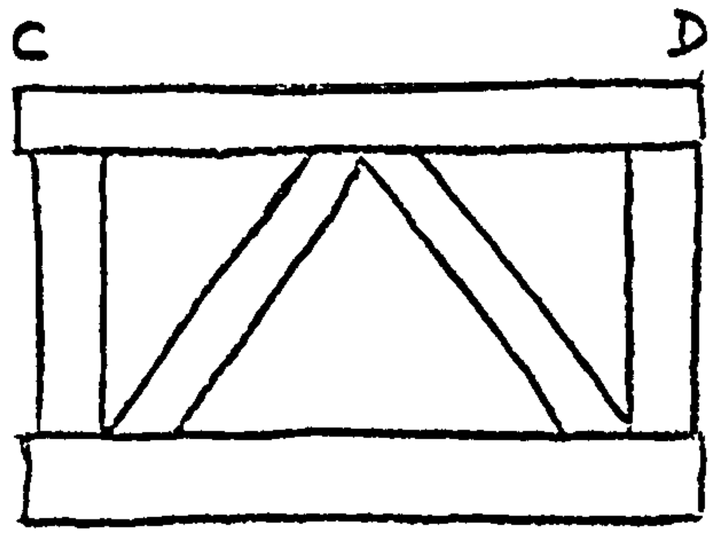
1. 1484, Robert Baron of Winfarthing. NCC A Caston 17.
   1502, John Savage of Winfarthing. NCC Popy 232.

TIVETSHALL ST. MARGARET

Sketches of bell-frame.







WINFARTHING, St Mary the Virgin. October, 1977.

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1. 1484, Robert Baron of Winfarthing. NCC A Caston 17.
   1502, John Savage of Winfarthing. NCC Popy 232.

The bells are a ring of six, tenor diameter 37 inches (940 mm) weighing 9 cwt 0 qr 4 lbs[1] and sounding G.

1. THE OLD TENOR BELL 1773
   GAVE SUBSTANCE AND WEIGHT TO SECOND AND ME.

2. JOHN WARNER AND SONS FOUNDERS LONDON 1912

3. IOHN BREND MADE ME 1640

4. WHEN SHAKESPEARE DIED I FIRST WAS SEEN
   IN YEAR OF GRACE 1616
   DAY HUNG US

5. RECAST BY JOHN WARNER AND SONS 1912
   18TH. CENTURY BELL RECAST
   A. E. CHURCH
   J. H. BREWSTER)
   R. M. PRESTON) CHURCHWARDENS

6. THOMAS NEWMAN CAST ME NEW IN 1732

The 1552 Inventory records bells of 7 cwt, 9 cwt, 11 cwt and 13 cwt, and L'Estrange[2] records a ring of five bells as follows:

1. Present 3/6 2. anno d'ni 1616

3. Uninscribed bell with rectangular cannons

4. Present 6/6 5. Pack & Chapman of London fecit 1773.

Before the 1912 restoration, 2, 3 and 5 were badly cracked and recasting took place as recorded in the inscriptions on the present ring of bells[3]. The uninscribed predecessor of the present fourth bell (No. 3 of the old ring of five) was the work of Samuel Gilpin of Norwich, who was paid the sum of £7-18-00 for recasting an older bell in 1684: the bells were rehung at the same time, and the accounts record that they were five in number[4]. The timber bell-frame is the work of Day of Eye and dates from 1912[5].

1. NDA.
2. CBN., p. 241.
3. T. H. Bryant, *The Churches of Norfolk: Hundred of Diss*, p. 315, where the weight of the old tenor bell is recorded as 14 cwt 3 qrs 4 lbs.
4. Churchwardens' accounts. NRO., PD 78/47.
5. NDA.

HUNDRED OF EARSHAM

ALBURGH, All Saints. June 1979.

The square west tower is tall and slender, rising to a height of about 80 ft (26 m). It is constructed of flint, with external dressings of limestone and internal details of brick. There is a facing of knapped flint and limestone flushwork on either side of the west doorway, on the parapet and on the faces of the buttresses. The design of the parapet (which has stepped battlements, crocketted pinnacles supported by flying buttresses, and the stubs for finials at the centre of each face) is also unusual.

The distinctive profile of the tower is due to the very large buttresses which rise to the height of the bell-chamber with only two intervening off-sets, a total height of about 60 ft (20 m). Above this level the corners of the tower are chamfered, and the parapet projects slightly above a pronounced string-course. From the inside it can be seen that the tower relies for its strength on the support given to the relatively thin walls by the massive buttresses and, despite a considerable and audible movement of the tower as the bells are rung, the structure seems to be stable. The west face of the tower has a fine doorway with carved shields in the spandrels, above which is a three-light window with voussoirs of alternate brick and flint, flanked by stooled niches. The first-floor chamber is lighted by a narrow two-light window beneath a two-centred, segmental head, and the sound-windows are of two lights beneath three-centred arches.

The lower part of the tower, to a height of about 60 ft (20 m), is of similar design and construction to the north wall of the nave; and there are identical window traceries in the first floor chamber of the tower and above the north door of the nave. A bequest in 1464[1] to a new screen and to the dedication of the church suggests that the nave and lower part of the tower were then complete. The upper part of the tower, which is of very different construction from the lower part, shows liberal use of brick, as well as window openings of markedly different design from those lower down. There was a bequest in 1504[2] to the buttressing of the tower which suggests a possible date for the increase in height, and the addition of the massive buttresses for support.

The bells are a ring of eight, tenor diameter 39 1/2 inches (1003 mm) weighing approximately 10 cwt and sounding G.

1. IOHN CLARK IOHN WRIGHT CH:WARDENS J737 R PHELPS FECIT

2. IOHN CLARK IOHN WRIGHT CHURCHWARDENS R:P FECIT J737

3. R PHELPS FECIT 1730

4. R PHELPS FECIT 1730

5. R PHELPS FECIT 1730

1. C&C. 2. C&C.

6. + Hac In Conclave : Gabriel Nunc Pange Suave

7. LESTER & PACK OF LONDON FECIT 1766
JNO. BURGES & JNO. BOOTY CH.WARDENS

8. + Dona Repende Pia : Rogo Magdalena Maria

The 1552 Inventory records bells of 6 cwt, 8 cwt, 12 cwt and 14 cwt, and 6 and 8 are from the pre-Reformation Norwich bell-foundry: 6 is probably by John Baly[1] and 8 is probably by Richard Brasyer 1[2]. The Alburgh Town Reeves' Accounts[3] show that the bells were increased from four to six in 1730 by exchanging the largest of the four old bells for three smaller bells: a new frame and ringing gallery were provided at the same time, and two further bells were added in 1738. The bells were rehung in 1908[4] by Bowell of Ipswich when the existing iron frame for eight bells was installed.

BILLINGFORD, St Leonard. May 1978.

The lowest stage of a square west tower, which has stout diagonal buttresses at the north-west and south-west corners and a projecting stair turret at the south-east corner, is constructed of flint with dressings of limestone. The roof of the tower is a tiled pyramid, and the space beneath it serves as the bell-chamber. Blomefield[5] states that the tower was formerly higher, but no record of the collapse of a tower, or a faculty for rebuilding, has been traced. The appearance of the three-light west window suggests that the remaining portion of the tower is probably 16th century[6].

There is a single bell, diameter 23 1/4 inches (590 mm) weighing approximately 2 1/2 cwt.

1. THO: GARDINER SVDBVRY ME FECIT 1714

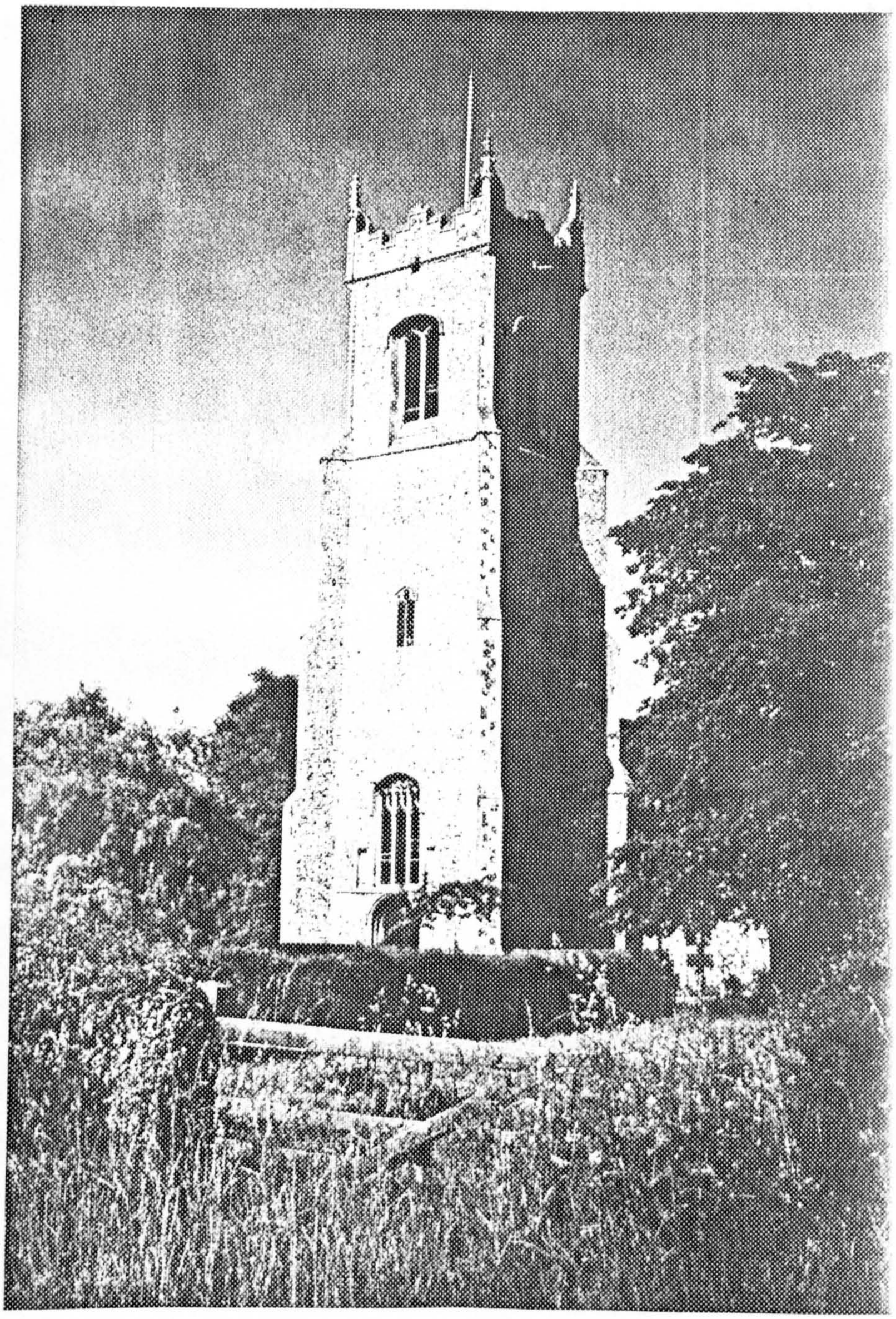
The 1552 Inventory records a single bell of 8 cwt. The bell-frame, which is designed for a single bell and has inclined braces supporting long frame-heads, is inscribed:

T. M. 1798.

1. See p. 428.
2. See p. 431.
3. NRO., PD 196/58.
4. Bellhanger's name and date cast on webs of frame.
5. Blomefield V, 231.
6. Compare with New Buckenham south aisle. C&C.

ALBURGH

June, 1979.



Square tower, possibly strengthened by the addition of buttresses and increased in height in c. 1504.

BROCKDISH, Ss. Peter and Paul. May 1979.

The square west tower was constructed of brick, faced with flint and with details of limestone, in 1864[1]. Blomefield[2] records that the tower had been partially rebuilt in brick in 1714, and in 1806 the sum of £108-16-07 was raised by a parish rate for the repair of the tower[3]. A sum of £36 was laid out in 1863 to Charles Kemp for taking down the old tower, and it would appear that the present tower was built from the foundations in 1864.

The bells are a ring of six, tenor diameter 39 1/4 inches (997 mm) weighing approximately 12 cwt and sounding G.

1. Ad Maiorem Dei Gloriam MDCCCLXVI

2. HENRY PLEASANT MADE ME 1697

3. Ad Maiorem Dei Gloriam MDCCCLXVI

4. + Sancta : Maria : Ora : Pro : Nobis

5. + Virgo Coronata : Duc Nos Ad Regna Beata

6. LAWRENGE GIBBS RECTOR JOHN CRICKMORE CHURCHWARDEN THOMAS OSBORN FECIT 1801.

The 1552 Inventory records bells of 6 1/2 cwt, 9 1/2 cwt, 13 cwt and 16 cwt; and 5 is from the pre-Reformation Norwich bell-foundry, probably cast by Richard Brasyer II[4]. 4 is a pre-Reformation bell from the Bury bell-foundry, probably cast by Reginald Chirche[5], and Blomefield[6] states that there was a tradition that it had been brought to Brockdish from Pulham. The two bells recast at the Whitechapel bell-foundry in 1866 were inscribed[7]:

1. EDWARD TOOKE MADE ME

3. HENRY PLEASANT MADE ME 1697.

The original 1/6 is said to have come from Norwich, St. Martin at Palace, probably in 1784[8]. There is no longer a clock bell as recorded by L'Estrange[9].

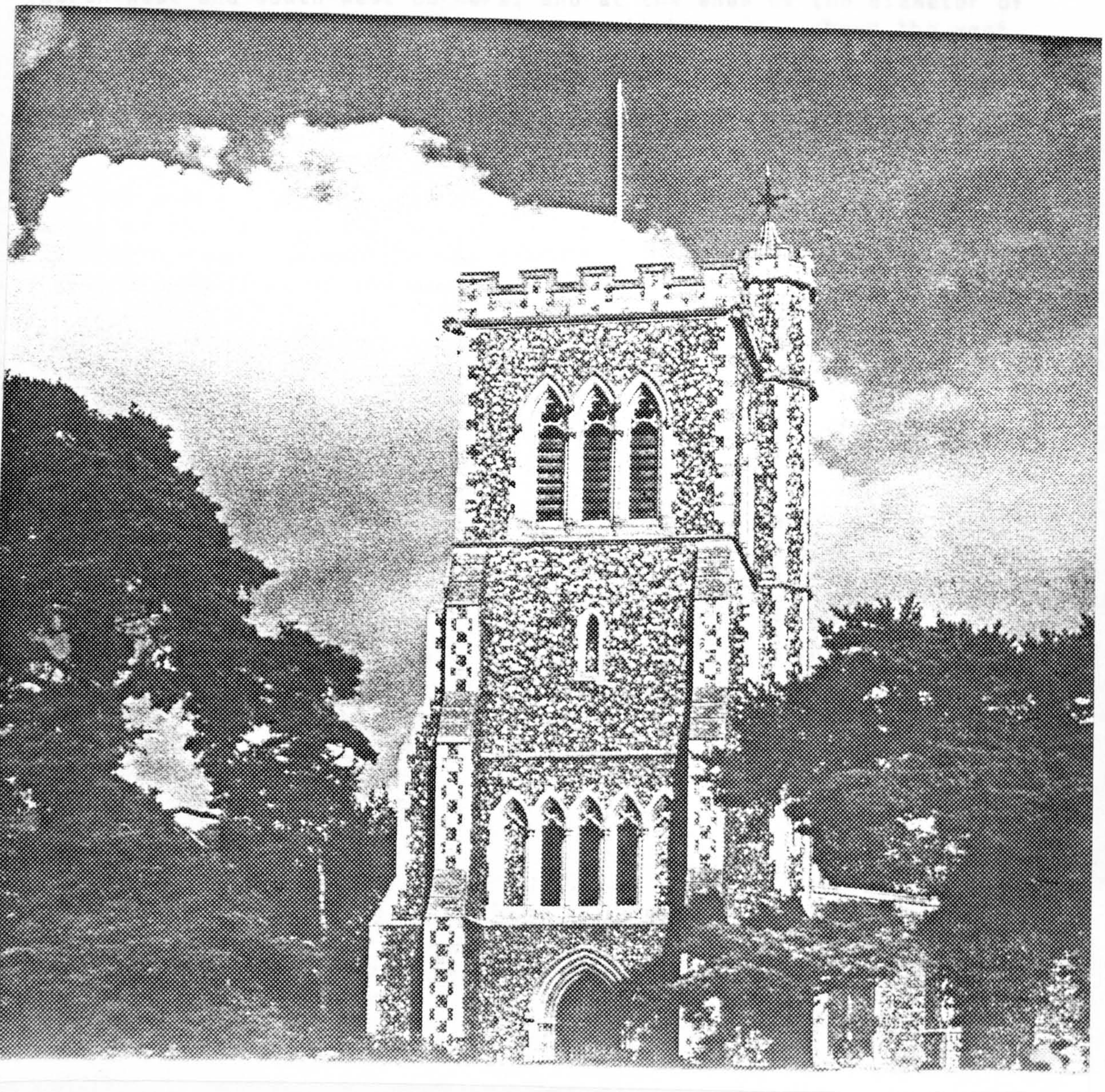
The bell-frame, designed for the present ring of six bells, is inscribed:

G. DAY EYE 1866.

1. Date inscribed on a stone at the base of the tower.
2. Blomefield 5, p. 329.
3. NRO., PD 477/34.
4. See p. 431. 5. See p. 441.
6. Blomefield V, 329. 7. CBN., p. 107.
8. CBN., p. 180. 9. CBN., p. 107.

BROCKDISH

May, 1984.



Square tower of 1864.

DENTON, St Mary the Virgin March 1978

The west tower is unique in design and construction. The east half of the lower part of the tower, to a height of about 40 ft (13 m), is a semicircular flint building, while the west part of the tower is a square brick structure: there are massive diagonal buttresses at the north-west and south-west corners, and at the ends of the diameter of the semicircular part. There is a three-light window above the west doorway, and the first-floor bell-chamber has three sound-windows of two lights: all the details of openings in the brick part of the tower are of limestone. The top 12 ft (4 m) section of the tower, which is square, projects above the semi-circular east face of the lower part of the tower, is constructed of brick with a facing of knapped flint, and has quoins and a parapet of limestone. A fine limestone arch opens to the nave of the church, and the remains of a small blocked opening through the semicircular part of the tower are visible at the level of the pitch of the nave roof.

Some major repairs to the tower are noted in the years 1536 - 1538[1] when a crane and hurdles were required, and by the end of the 17th century the tower had become ruined. Various records relating to Visitations by the Archdeacon of Norfolk show that the bells were on the floor of the church in 1692[2] and that an order had been given for the tower to be rebuilt: the work had been satisfactorily completed by 1714[3]. In the churchwardens' account book for the period 1641 - 1708[4] there are accounts for the first part of the work of rebuilding the tower, but there is a break in the accounts between 1708 and 1807. It is, however, clear that foundations were laid in 1703 and that a brick tower was well on the way to completion by the end of the extant accounts: large quantities of bricks were purchased, a master-builder received regular payments and scaffolding was first mentioned in the accounts for Easter 1707. It seems very likely that the brick part of the existing tower was completed by 1714, and that the upper stage of the tower was added to house the clock mechanism in 1843.[5].

The bells are a chime of three, tenor diameter 40 inches (1016 mm), weighing approximately 11 cwt and sounding G.

1. Anno Domini 1616

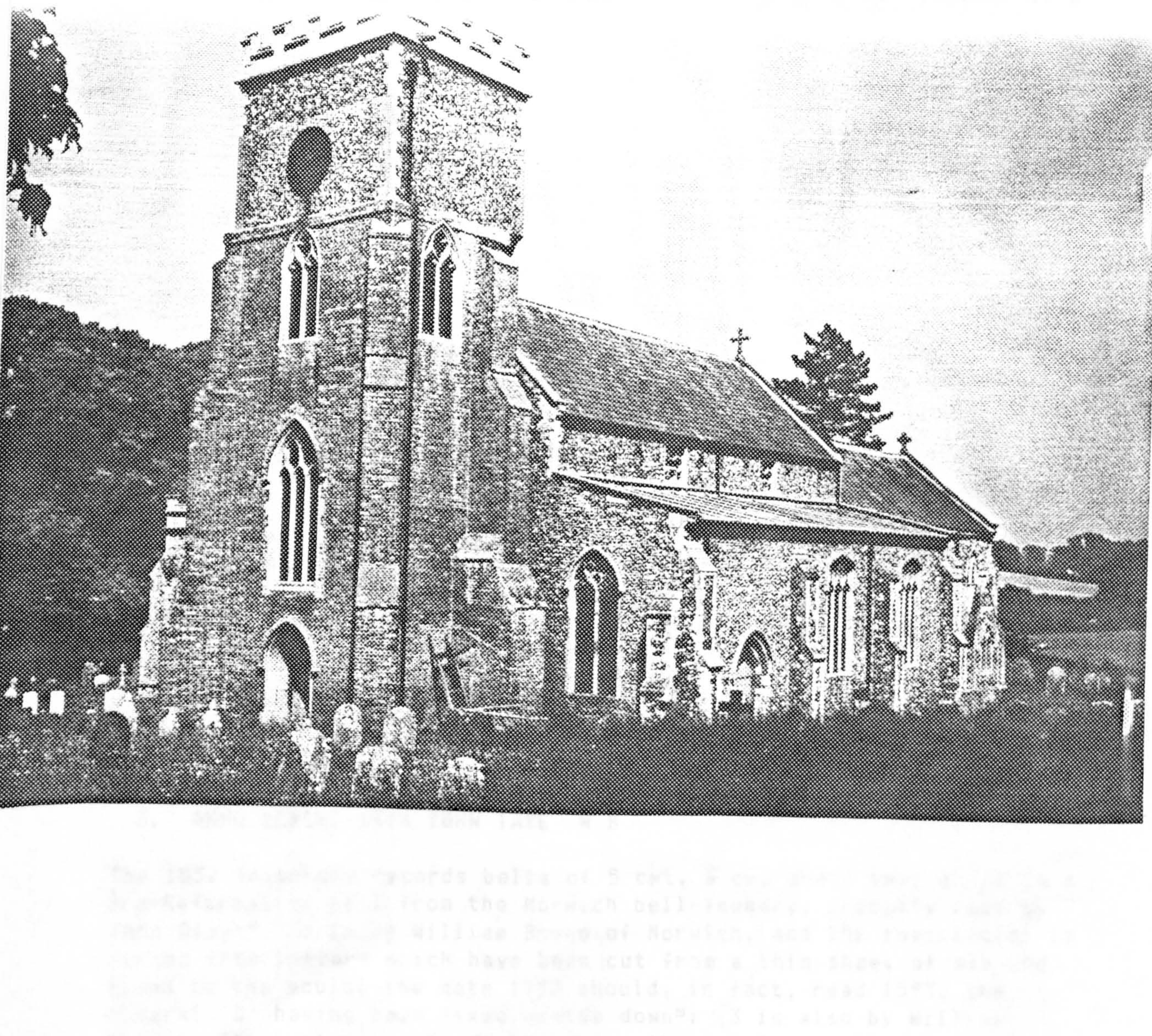
2. + O : MATHEE : ME : ADIUVA : MENTE' : ABIMIS : SULLEVA

3. + EDMUNDE : REX : SA'CTISSIME : FAC : TECV' : SE'PER : VIVERE

1. Churchwardens' accounts, NRO., PD 136/56.
2. NRO., NDR., VIS/9.
3. NRO., NDR., ANF/1/16.
4. Churchwardens' accounts, NRO., PD 136/58.
5. Lee Warner's notes on Denton., NRO., PD 136/132.

DENTON

June, 1979.



Brick tower of c. 1703 - 1714, attached to part of an older, round tower; square upper stage added in 1843.

The 1552 Inventory records bells of 6 cwt, 8 cwt and 10 cwt, also 'a litill Sanse bell weying viij li'; and 2 and 3 were probably cast by John Magges at the pre-Reformation Norwich bell-foundry[1]. 1 is by William Brend of Norwich.

The oak bell-frame is designed for the existing ring[3], with three pits arranged for the bells to swing east-west, the largest bell in the middle. The foundations of the frame, which are jointed together at a single level and rest on a floor of stout oak boards, are not built into the fabric of the tower. Each of the three parallel trusses has a pair of inclined braces supporting the long frame-heads. It would appear that the frame was installed at about the time of completion of the tower fabric in c. 1714.

EARSHAM, All Saints. November, 1981.

The square west tower, of flint with dressings of limestone, is of four stages with diagonal buttresses at the south-west and north-west corners: there is no permanent stairway, and access to the three floors is by means of ladders. The west window at ground-floor level has details which appear to be 19th century, and brick jambs relating to an earlier opening remain on the outside of the west wall: the four sound-windows have simple 'Y' tracery. Brick is noted in the angles between the tower and buttresses and in the internal construction of all window openings. No bequests to the tower fabric have been traced, and it would appear from the design of the sound-windows, as well as from the liberal use of brick, that the tower is probably 15th century[3].

The bells are a ring of three, tenor diameter 40 1/4 inches (1022 mm) weighing 11 1/2 cwt approximately and sounding G.

1. + Hac in Conclave : Gabriel Nu'c Pange Suave

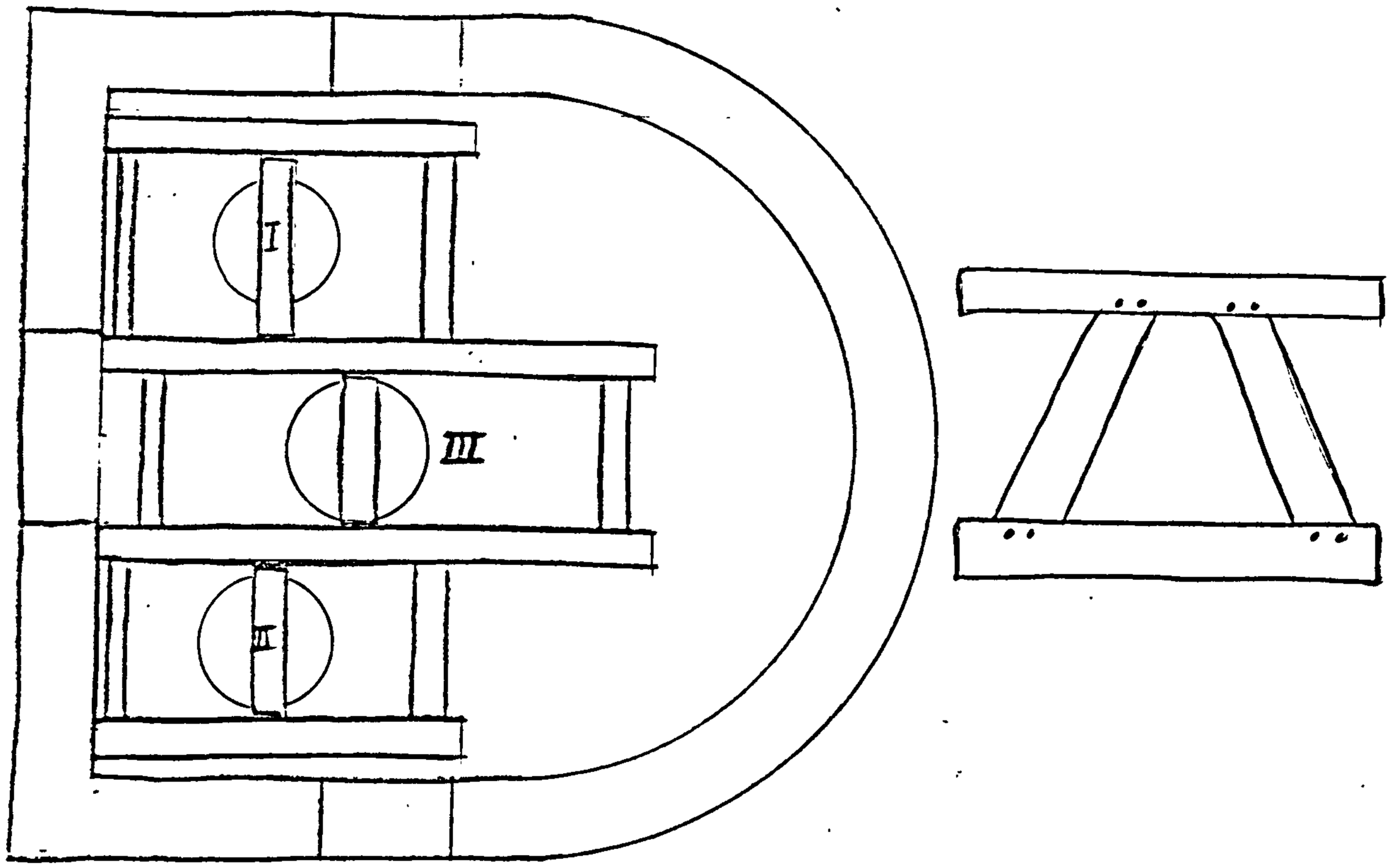
2. ANNO DOMINI 1793 W B

3. ANNO DOMINI 1614 IOHN IAYE W B

The 1552 Inventory records bells of 5 cwt, 6 cwt and 7 cwt; and 1 is a pre-Reformation bell from the Norwich bell-foundry, probably cast by John Aleyn[4]. 2 is by William Brend of Norwich, and the inscription is formed from letters which have been cut from a thin sheet of wax and fixed to the mould; the date 1793 should, in fact, read 1593, the numeral '5' having been fixed upside down[5]: 3 is also by William Brend. The bell-frame is designed for the existing bells, and the pits are are arranged in such a way that the frame could readily be extended to house a ring of six. The work appears to be by Day of Eye and to date from the early part of the 20th century.

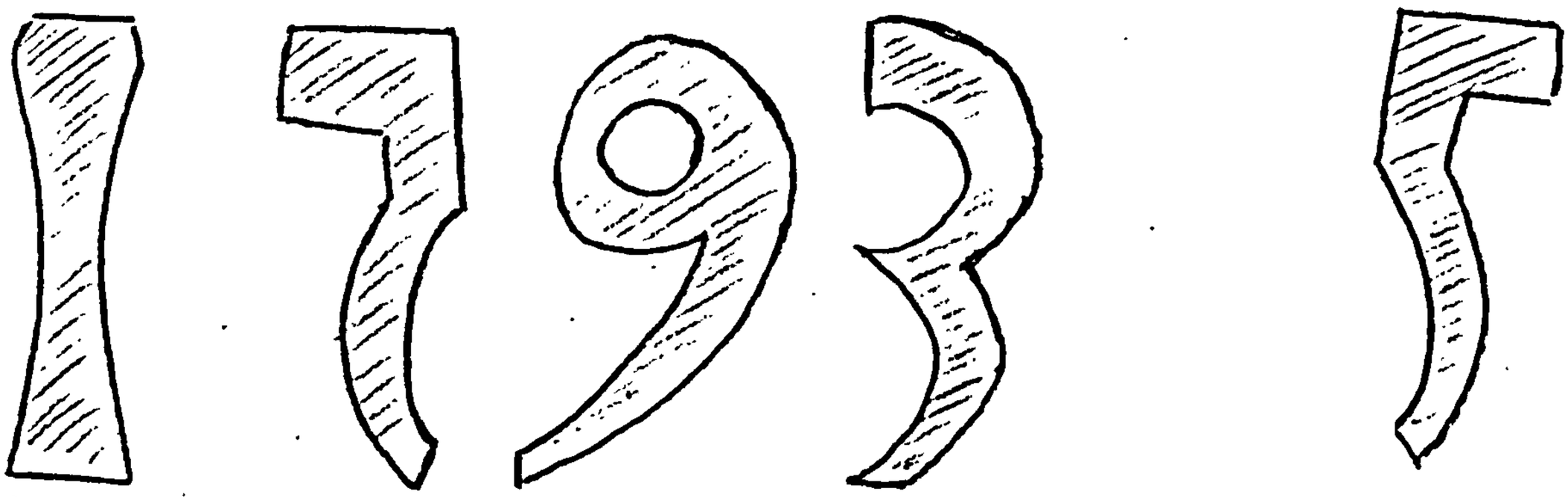
1. See p. 435.
2. See diagram, p. 196.
3. Compare with Tacolnestone tower of c. 1462, p. 134.
4. See p. 433.
5. See diagram, p. 196.

DENTON



Plan and diagram of bell-frame.

EARSHAM



Reversed numeral.

Lettering on second bell.

NEEDHAM, St Peter. September 1978.

The lower, round section of the west tower, about 40 ft (13 m) tall, has no distinctive features to suggest a possible date, and the octagonal belfry completes a total height of about 55 ft (18 m). The lower part of the round section is built of flint and has a single light opening with a cinquefoil head to the ground-floor chamber; there is also a narrow rectangular window on the west side at the level of the first-floor chamber: the external details of both windows are of limestone. The upper part of the round section has openings on all four sides to a second floor chamber: the west opening was formerly large with jambs and voussoirs of brick, while those on the other three sides were much smaller; all four openings have been much repaired with more modern brick. A stair turret to the level of the first floor has external details of knapped flint with headers of brick. The octagonal belfry is constructed of flint interspersed with brick headers, and the quoins are entirely of brickwork. There are four sound-windows with simple brick 'Y' tracery beneath four-centred brick arches, and the parapet is of knapped flint with brick quoins and limestone copings. The design of the nave windows suggests a 15th century date for the church, and bequests to the porch between 1464 and 1470 suggest that the nave was complete by then. It seems very likely that the tower was increased in height by the addition of the belfry, and the stair turret was added, at about the time of a specific bequest in 1464[1].

The bells are a chime of three, tenor diameter of 34 1/4 inches (870 mm), weighing approximately 7 cwt and sounding B flat.

1. ANNO DOMINI 1566 I B I D

2. + Sancta : Maria : Ora : Pro : Nobis

3. Anno Domini 1627

There was a bequest in 1504 towards a new bell[2], and the 1552 Inventory records bells four bells whose weights are given as 9 cwt 2 qr 25 lb, 7 cwt 3 qr 4 lb, 5 cwt 0 qr 21 lb and 4 cwt 1 qr 14 lb. 1 is by John Brend I of Norwich, 2 was probably cast by Thomas Chirche at the pre-Reformation Bury bell-foundry[3], and 3 is by William Brend of Norwich. The bell-frame is designed for four bells to swing round a central space and is inscribed:

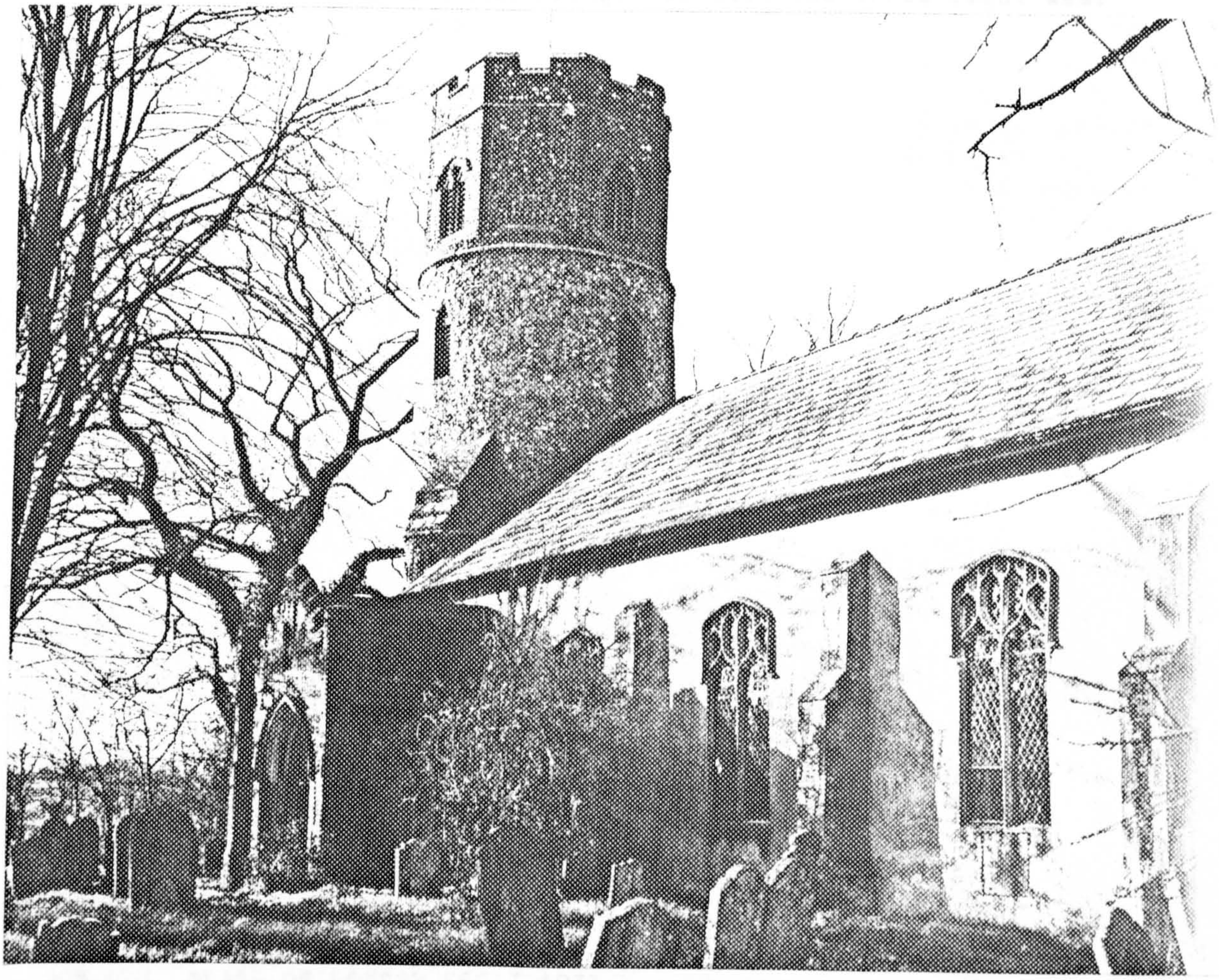
RICHARD & JOHN GOFFIN
1843
JOHN GOSLING

The trusses have vertical posts beneath the bearings of the bells and inclined braces.

1. C&C.
2. 1504, Richard Lofte of Needham, NCC Ryxe 87.
3. See p. 441.

NEEDHAM

March, 1980



Round tower, with octagonal belfry of c. 1464.

PULHAM MARKET, St Mary Magdalen. June 1979.

The west tower, which is constructed of flint rubble with external dressings of limestone and with many internal details of brick, has diagonal buttresses at the north-west and south-west corners and a stair turret at the south-east corner; the parapet is stepped and embattled, with flushwork panelling. Beneath the three-light west window is a doorway with a finely moulded arch having fleurons in the spandrels; and the ringing chamber window is of two lights, as are the four sound-windows. The tower is almost identical in design to those at Occold, Suffolk, and Bressingham; and the similarity in appearance of the three towers together with a comparison of accessible mouldings, has suggested that they were the work of a single group of masons [1]: the suggested date in the 1420's or 1430's is supported by a bequest for bells in 1438[2].

The bells are a ring of eight, tenor diameter 43 1/4 inches (1100 mm) weighing 13 cwt 1 qr 22 lbs and sounding F [3].

1. CAST BY JOHN WARNER & SONS LTD. LONDON 1903
   IN MEMORY OF QUEEN VICTORIA THE GOOD
   REVD. S. FELLOWS RECTOR
   L. PAULLEY)
   R. BORRETT) CHURCHWARDENS

2. CAST BY JOHN WARNER & SONS LTD. LONDON 1903
   IN MEMORY OF EVELYN S. FELLOWS
   HIS FAMILY AND FRIENDS MADE ME
   REVD. S. FELLOWS RECTOR
   L. PAULLEY)
   R. BORRETT) CHURCHWARDENS

3. M & S LONDON 1928 DAY HUNG US

4. RECAST BY JOHN WARNER & SONS LTD. LONDON 1903
   RECAST IN MEMORY OF E. A. BORRETT.

5. T. MEARS OF LONDON FECIT 1833

6. M & S LONDON 1928 DAY HUNG US

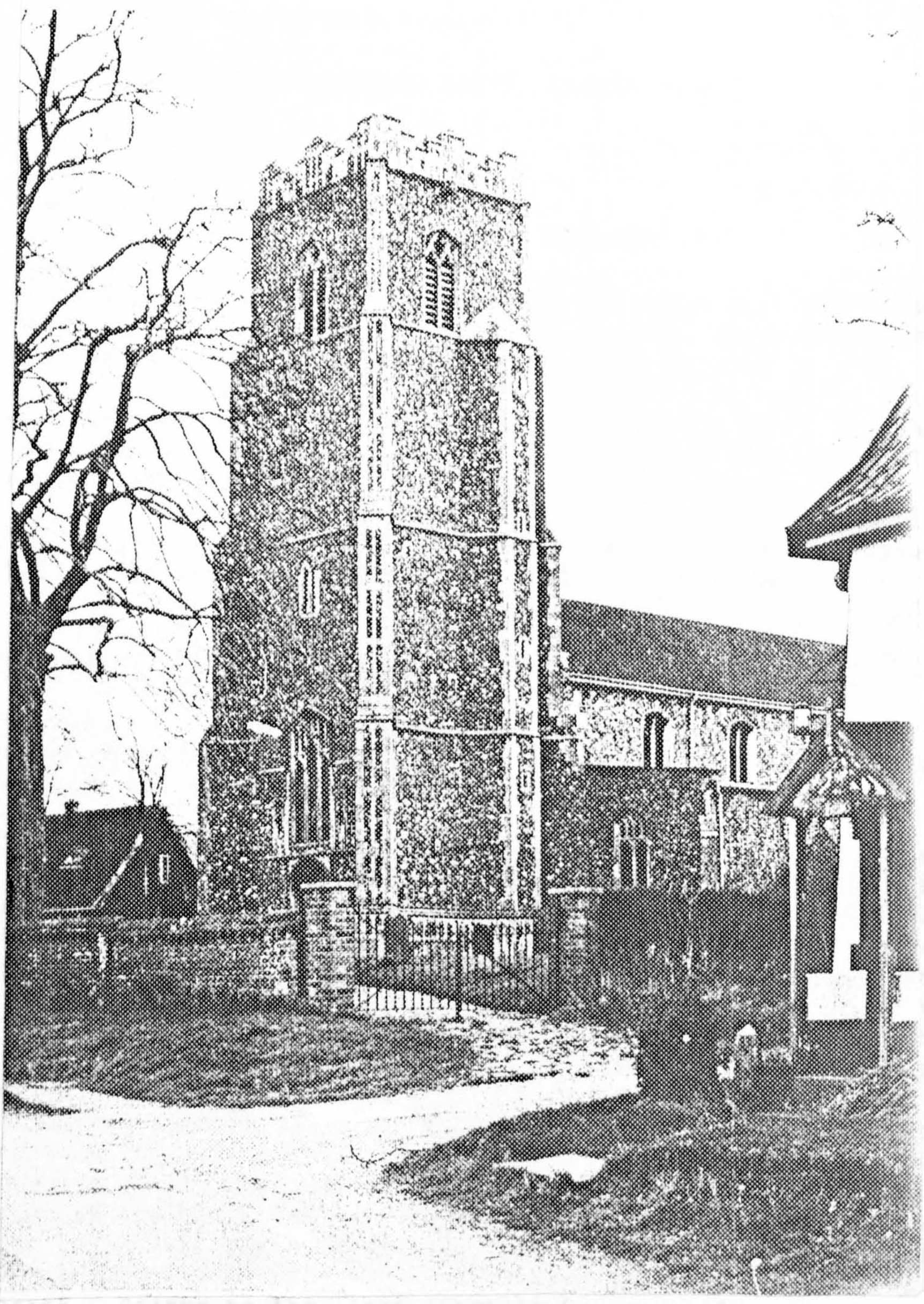
7. I STEPHENS FECIT 1724
   THOMAS HORNE RICHARD BAKER CHURCHWARDENS

8. M & S LONDON 1928
   RECAST BY ALFRED R. TODD CHURCHWARDEN.

1. R. Fawcett, *Later Gothic Architecture in Norfolk*, Ph.D. Thesis, University of East Anglia, 1975. A bequest to Bressingham tower in 1431 has been noted (C&C). There was a bequest at Occold in 1426 (William Osmonde of Occold, NCC Surflete 2) as follows: 'do et lego ad fabricam sive facturam novi campanilis ecclesie parochialis de Ocolte xl s.'
2. C&C.
3. Weight from a framed card in the tower.

PULHAM MARKET

March, 1984.



Square tower probably complete by c. 1438.

When L'Estrange recorded the inscriptions[1] he noted a ring of six as follows:

1. IOHN STEPHENS MADE MEE 1724

2. IOHN STEPHENS CAST US 6 1724

3. Present No. 5 bell.

4. THOMAS HORNE RICHARD BAKER CHURCHWARDENS 1724

5. Present No. 7 bell.

6. IOHN STEPHENS MADE ME 1724
   THOMAS HORNE RICHARD BAKER CHURCHWARDENS

1 and 2 are additions to the ring of six noted by L'Estrange[2], and it appears that the present 7th bell is the sole survivor of the ring of six cast for the tower by John Stephens of Norwich in 1724. The 1552 Inventory records bells of 11 cwt, 13 cwt, 15 cwt and 18 cwt; and the churchwardens accounts contain much information about the casting of the 1724 bells from the older ring of five, as well as details of work on the bells in the 17th century[3].

The bell-frame is of metal and appears to have been installed when the bells were augmented to eight in 1903.

PULHAM ST. MARY, St Mary the Virgin. June 1979.

The ground plan of the church is curiously unsymmetrical, with the tower and the chancel on the same axis of symmetry and the nave widened to the south; there is also a wide south aisle.

The square tower, approximately 75 ft (25 m) high, is constructed of flint with external dressings of limestone, and there are massive diagonal buttresses at the north-west and south-west corners. Externally there are two string courses: one at a height of about 40 ft (13 m) and the second below the parapet, which is panelled with flint and limestone flushwork, and has shields on the south face. There is no west doorway to the ground-floor chamber, which has a two-light west window; and the first-floor ringing-chamber is lighted on three sides by small windows, which show external details of limestone with rectangular heads, but whose large internal reveals are constructed entirely of flint with semi-circular heads. A similar opening in the east wall of the ringing chamber, at the level of the apex of the roof, has been adapted as a doorway through to the nave. The bell-chamber has large, two-light sound-windows with bold tracery, whose external details are of limestone and internal details are of brick. Access to the first floor is by means of a substantial timber stairway from the floor of the south aisle, passing through a small

1. CBN., p. 191.
2. *Ibid.*
3. *Ibid.*

archway in the south wall of the nave, to a doorway high in the west wall. No direct evidence for the date of the tower has been found, but it seems reasonable to assume that the lower part of the tower is contemporary with the chancel whose features suggest a date in the 13th century or earlier[1]. A bequest for leading in 1476 suggests that the nave roof might then have been under construction, and the traceries of the windows in the north side of the nave are consistent with a late 15th century reconstruction[2]. A bequest in 1504, to the making of a vise in the steeple[3], suggests that the tall upper part of the tower was then complete and that the absence of a masonry stairway was an inconvenience. Money was left in 1540 towards the removal[4] of a spire, which may subsequently have been repaired since it was still in existence in 1738[5]. A faculty petition in that year refers to the great weight of a spire 'of no use and little ornament', and which had caused a large crack in the tower which was 'grappled together by two large beams to prevent the spire falling on the body of the church'.

The bells are a ring of eight, tenor diameter 40 inches (1016 mm) weighing approximately 14 cwt and sounding F.

1. CAST BY JOHN WARNER & SONS LTD. LONDON 1895
   Sancta Maria Virgo A.M.D.G. et in mem.
   Henrietta Goschen ob. Mart XIV MDCCCXCV
   HUNG BY G DAY & SON EYE

2. CAST BY JOHN WARNER & SONS LTD. LONDON 1895
   Sanctus Patricius A.M.D.G. et in mem.
   Easeby Digby Cleaver
   Presbyteri ob. Nov XXVI MDCCCXCIV
   HUNG BY G DAY & SON EYE

3. IOHN THORNTON SUDBURY ME FECIT
   MR. I F C W 1717 MR. I F

4. Anno Domini 1611

5. W. DOBSON FOUNDER 1828
   RICHD. WEBB & JOHN WAKE CHURCHWARDENS
   RECAST 1963
   CRICHTON JOHN FRANCIS HUGGINS RECTOR
   THOMAS MANBY WILBY)
   FREDERICK ARNOLD LEVELL) CHURCHWARDENS

6. + O : DUS : CELI : FAC : BARBARA : CRIMINA : DELI

7. IOHN GOLDSMITH MADE ME
   ST. MARGARET MR. I S MR. E F MR. R H C W 1708

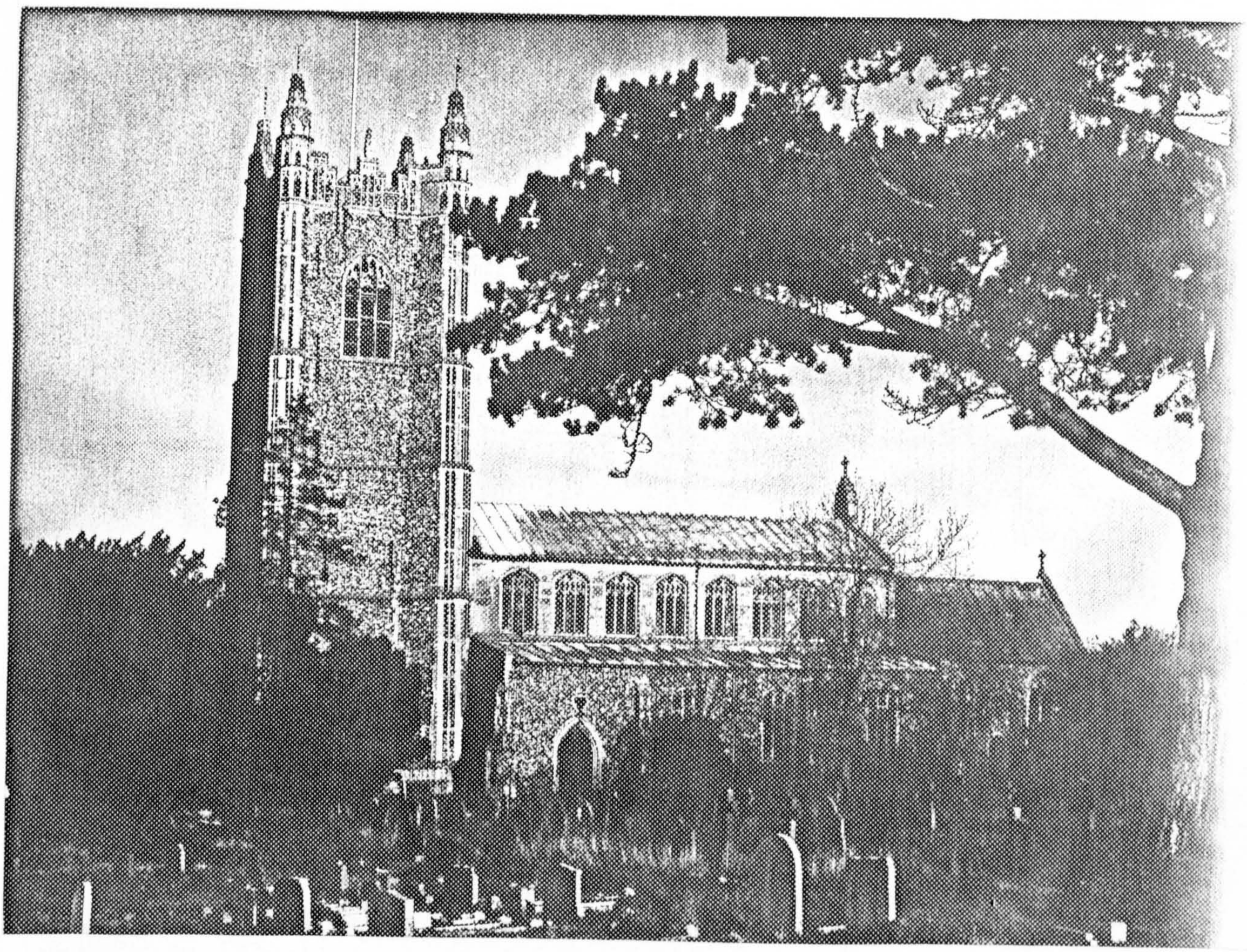
8. THOMAS NEWMAN MADE ME
   MR. IOHN SIMPSON & MR THOMAS HORNE C W 1739

1. Pevsner, p. 286.
2. C&C.
3. C&C.
4. C&C.
5. NRO., NDR., FCB 2., fo. 16.

The 1552 Inventory records bells of 6 cwt, 9 cwt, 12 cwt and 13 cwt; and 6 is a bell probably cast by John Magges at the pre-Reformation bell-foundry[1]: the inscription is poorly formed with letters upside down and part of the first word, which usually appears as 'OCIDUS', has been wiped away in the moulding of the bell before casting. 4 is by William Brend of Norwich, and the two trebles are an addition of 1895[2]. The metal bell-frame was installed when the ring of eight was completed in 1895 by G. Day and Son of Eye[3].

REDENHALL

April, 1978.



Tower begun c. 1469 and completed c. 1518.

1. See p. 435.
2. CBN., p. 193.
3. Day.

REDENHALL, The Assumption of Our Lady. April 1980.

The massive square tower, approximately 85 ft (28 m) high, is at the west end of the aisled nave of a large and impressive church, the plan is unusual in having octagonal buttresses[1] which rise above the level of the parapet to form large turrets in place of pinnacles at the corners of the tower. The tower is faced with knapped flint and the south and west faces are sumptuously decorated with flint and limestone flushwork, as is the stepped and embattled parapet. The tower is constructed of flint rubble with a very liberal intermixture of brick, and at the level of the first-floor chamber the interior walls show neat courses alternately of brick headers and flint; while the internal walls of the bell-chamber, at the level of the third floor, are almost entirely of brick. Brick is also used for the newel of the vise, which has treads of limestone, and for the visible internal details of window openings and doorways. The west doorway is large, with a richly moulded arch and decorated spandrels, and is flanked by niches: immediately above is a large four-light window lighting the ringers' gallery. Two smaller two-light windows correspond to the first-floor and second-floor chambers, and the bell-chamber has three-light sound-windows with elaborately traceried heads. The lower part of the tower is probably contemporary with the clerestory (which, unusually, is of limestone, and may be dated by a bequest to the making of a new roof for the church in 1452[2]). Work on the tower is first mentioned in a will of 1469; there are numerous bequests through to 1498, and the tower must have been virtually complete by 1514, when money was left for the casting of the tenor bell[3]. The south-west pinnacle has the rebus of Richard Shelton, Rector from 1518, who, it would appear saw the completion of the parapet[4].

The bells are a ring of eight, tenor diameter 51 inches (1295 mm) weighing approximately 24 cwt and sounding D.

1. RICHARD PHELPS OF LONDON MADE ME 1736

2. THESE TWO LEAST BELLS WERE BOUGHT BY THE GIFTS OF SUNDRY BENEFACTORS OBTAINED AND COLLECTED BY MR. JOHN SAWER 1737 R P FECIT.

3. JOHN STEPHENS BELLFOUNDER OF NORWICH 1718
   RECAST 1924 BY BOWELL OF IPSWICH

4. PETRUS : AD : ETERNE : DUCAT : NOS : PASCUA : VITE RECAST 1738
   R. PHELPS T LESTER LONDINI FECIT
   RECAST 1924 BY BOWELL OF IPSWICH

5. R PHELPS LONDINI FECIT 1738

6. coeli solamen nobis det deus thomas draper me fecit 1588 ID

7. IOHN DRAPER MADE ME 1621

1. Other local examples include Bungay, Eye and Laxfield.
2. C&C. 3. C&C.
4. C. Candler, *Notes on the parish of Redenhall with Harleston*, London, 1890, p. 38.

8. + Stella : Maria : Maris : Succurre : Piisima : Nobis

The 1552 Inventory records bells of 10 cwt, 12 cwt, 16 cwt, 19 cwt and 24 cwt; and the tenor bell, which was probably cast by Thomas Chirche[1] at the pre-Reformation Bury St. Edmunds bell-foundry, may well be dated by the bequest of Thomas Bayly in 1514. The churchwardens' accounts, which show that the bells were increased from six to eight in 1736 - 1737, give full details of work on the bells from 1573 onwards[2]. Blomefield[3] gives the inscription on the second bell of the ring of six as follows:

Petrus ad Eterne ducat nos pascua Vite.

The inscription was not reproduced in the recasting of 1738, but was placed on the bell when it was again recast in 1924[4]. The timber bell-frame was designed for the ring of eight bells and is inscribed:

I BURGESS BROCKDISH 1806 FECIT.

RUSHALL, St Mary the Virgin. September 1978.

The west tower is of flint and has two round sections, divided by an off-set at a height of about 20 ft (6.5 m), with a total height of about 35 ft (11 m); and an octagonal belfry completes a total height of about 55 ft (18 m). The details of the west window to the ground-floor chamber, which is a single light with a cinquefoil head beneath a hood-mould, are of limestone. The the round west window to the first-floor chamber is constructed mainly of flint, but there a few thin tiles at the head which have not been set radially: the opening is now filled with brick. The octagonal belfry, which has quoins of limestone, is of flint with a liberal mixture of brick; and the four sound-windows are of two lights, having limestone traceries and internal details of brick. The circular window opening suggests an Anglo-Saxon date for the lower part of the tower[5], and the octagonal belfry is probably dated by a bequest in 1474[6].

There is a single bell, diameter 28 3/4 inches (730 mm) weighing approximately 4 3/4 cwt.

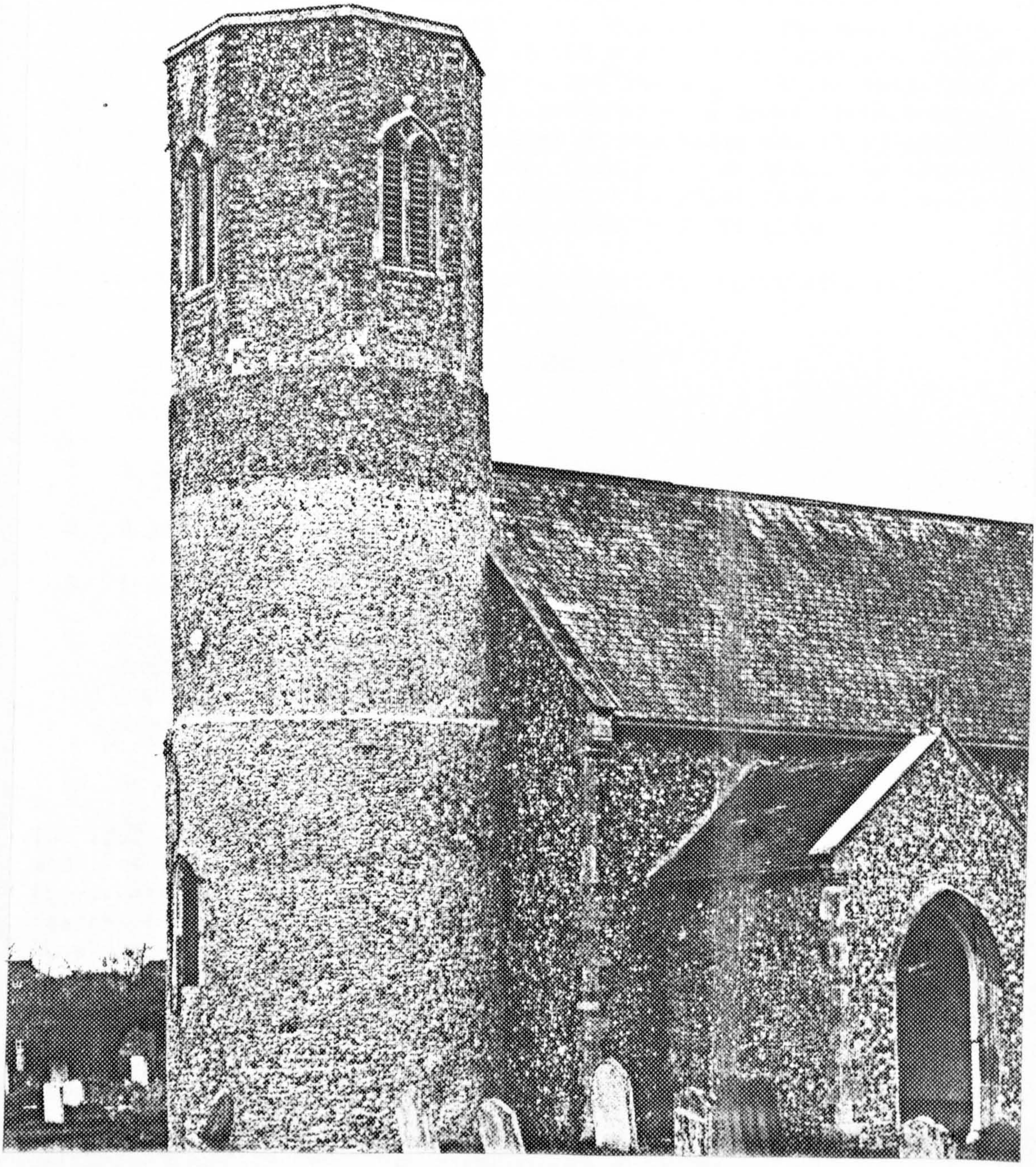
1. IOHN GOLDSMITH FECIT 1712
   TO THE GLORY OF GOD AND IN MEMORY OF MARY ELIZA GAPE, RECAST BY HER DAUGHTER MARY ELIZABETH CAMPBELL 1912.
   J. E. PLAYER VICAR
   E. PYMAR)
   E. ALGAR) CHURCHWARDENS
   MEARS & STAINBANK LONDON

The 1552 Inventory records bells of 2 cwt, 3 cwt and 4 cwt. The bell-frame and fittings are all of 1912[7].

1. C&C., also see p. 441. 2. Candler, *Op. Cit.*, pp. 60 - 94.
3. Blomefield V, 362.
4. CBN, p. 195. 5. Pevsner, p. 297. 6. C&C.
7. Correspondence examined at Needham Rectory, 1978.

RUSHALL

April, 1981.



Possibly Anglo-Saxon tower, with octagonal belfry of c. 1474.

STARSTON, St Margaret. May 1979.

The square west tower is constructed of flint rubble with limestone facing to the lower parts of the buttresses, and with a chequered parapet of flint and limestone flushwork. The tower is about 45 ft (15 m) high and has two external stages, divided by a stringcourse at a height of about 30 ft (10 m) on all except the east face. There is no west doorway and the two-light west window appears to have been heavily restored. There are similar two-light sound-windows on all faces of the tower except the east, where there is a single tall lancet with a semi-circular head. The flintwork of the east face of the tower is different from that of the other three faces and it would appear, from the lack of symmetry of the design, that the east face of an earlier tower was retained in the course of a major reconstruction. The parapet of the tower matches that of the nave, and it is possible that the reconstruction of the tower took place at about the same time as that of the nave. There was a bequest in 1524[1] to the hallowing of the church, and this might well date both nave and tower.

The bells are a ring of six, tenor diameter 35 inches (890 mm) weighing approximately 8 cwt and sounding A.

1. MEARS & STAINBANK FOUNDERS LONDON 1903
   GIVEN BY CONSTANCE HOPPER
   HUNG BY G. DAY & SON EYE

2. C AND G MEARS Founders London MDCCCXLVII

3. Anno Domini 1619

4. C & G MEARS FOUNDERS LONDON 1847

5. C & G MEARS FOUNDERS LONDON 1847
   AUGUSTUS MACDONALD HOPPER RECTOR
   CHARLES ETHEREDGE)
   DAVID FEAVERYEAR) CHURCHWARDENS

6. Anno Domini 1619.

The 1552 Inventory records bells of 6 cwt, 8 cwt, 9 cwt and 11 cwt: 4 and 6 of the present ring are by William Brend of Norwich, and by 1721 there were five bells[2] which were rehung by Thomas Seaman. The restoration of 1847 was accomplished removing 2, 3 and 5 of the old ring and replacing them by lighter bells (2, 4 and 5 of the present ring) thus decreasing the total weight[3]. The bells hang in an iron frame which was designed for the existing ring.

1. C&C.
2. Churchwardens' accounts NRO. PD 119/97.
3. CBN., p. 214.

THORPE ABBOTS, All Saints. March 1980.

The west tower is round to a height of about 35 ft (11.5 m) and has an octagonal belfry increasing the height to about 50 ft (16.5 m). The round part of the tower, which tapers noticeably and is constructed of flint rubble, has a single light window with a cinquefoil head to the ground-floor chamber, and two simple rectangular openings to the first-floor chamber. The octagonal belfry is constructed of flint with a liberal mixture of brick, which is also used for the quoins and for the internal details of the window openings: there is also a simple parapet of brick. The four sound-windows are of two lights with traceries and external details of limestone, and the alternate faces of the belfry have designs in flushwork which are similar to the sound-windows. The round stage of the tower may well be Norman or earlier, as suggested by Cautley[1], and the octagonal belfry is probably datable by a bequest to the tower and bells in 1503[2].

There are two bells, the larger of which has a diameter of 29 inches (737 mm), weighing approximately 5 1/2 cwt.

1. IOHN DARBIE MADE ME 1678

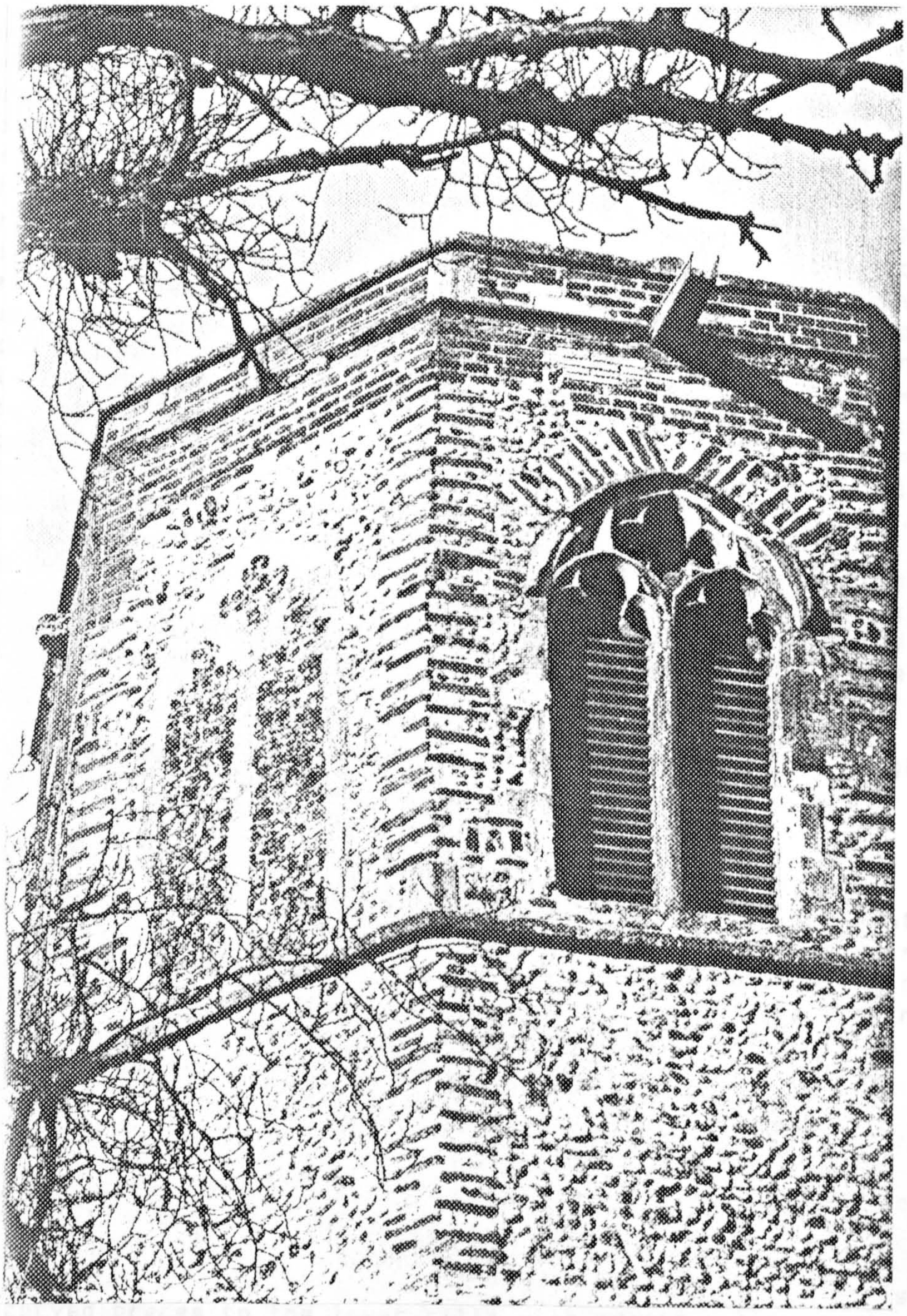
2. RECAST BY GILLETT & JOHNSON CROYDON 1929
   IOHN GOLDSMITH FECIT 1712
   MR IOHN CATON CH.WD.
   S. L. STANNARD
   H. A. W. BLATHWAYT RECTOR

The 1552 Inventory records bells of 3 1/2 cwt, 4 cwt and 7 1/2 cwt, and a Faculty petition of 1735 [3] records the unauthorised removal of a bell which was sold to provide funds for the purchase of a clock. L'Estrange[4] notes the inscription on the larger bell, from which it would appear that Mr Blathwayt was Rector in 1929. The bells hang in a modern frame supported by rolled steel joists.

1. Cautley, p. 2.
2. C&C.
3. NRO., NDR., FCB 1., fo. 642.
4. CBN., p. 223.

THORPE ABBOTS

March, 1980.



Octagonal belfry probably of c. 1503.

HUNDRED OF HENSTEAD.

ARMINGHALL, St Mary the Virgin. April 1981.

The square west tower, which has neither buttresses nor stair projection and batters considerably, is constructed of flint rubble and faced with knapped flint. Limestone is used for stringcourses, weathermoulds, external quoins and for all external details of the windows; and brick is used for the joint between the tower and nave and, inside the tower, to form the internal corners and the soffits of the arched openings. There is a two-light west window with simple 'Y' tracery to the ground-floor chamber, and a small lancet light to the first-floor chamber; the sound-windows are each of two lights with traceried heads. The east wall of first-floor chamber shows a massively formed brick arch, which supports the ridge-piece of the nave roof, and which extends for the full width of the tower. The rubble filling of this arch appears to be contemporary with the tower, as is the smaller, plastered brick archway between the ground-floor of the tower and the nave. The nave ceiling is much lower than the pitch of the roof, and there is access to the space between the ceiling and the roof through a small doorway in the filling of the wide arched recess. It seems likely that the purpose of this arrangement was to provide for a future increase in the height of the church roof, when the rubble filling could be removed to open a fine, large arch to the nave without unduly disturbing the tower fabric[1]. The design and details of the tower are consistent with a date suggested by a bequest in 1473[2].

There is a single bell, diameter 24 3/4 inches (630 mm) weighing approximately 2 1/2 cwt.

1. ANNO DO'I 1615 W B

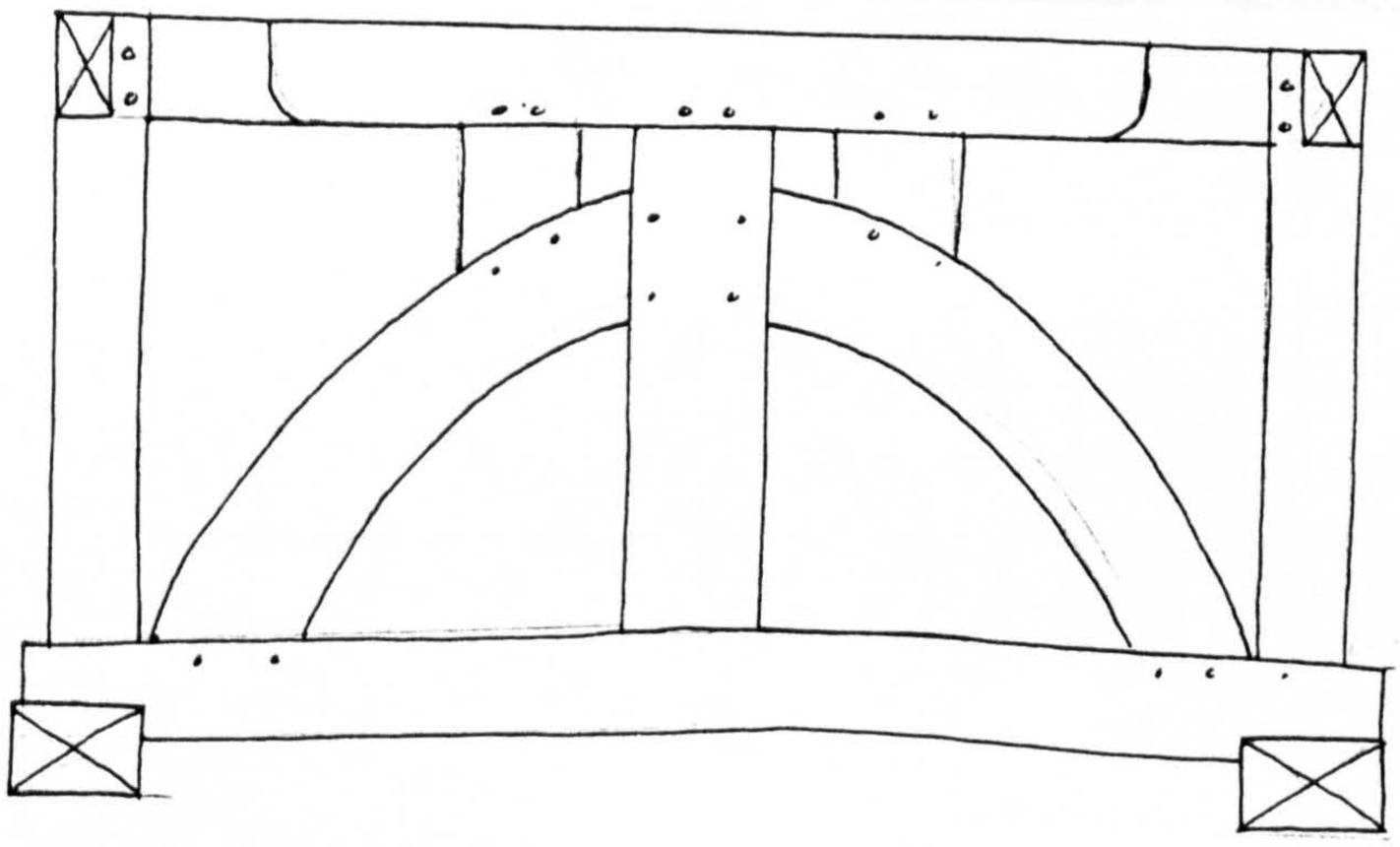
The 1552 Inventory records bells of 2 cwt and 3 cwt, and that a bell of 3 1/2 cwt was mortgaged for a sum of £10, to be spent on repairs to the church. The remaining bell is by William Brend of Norwich, and a faculty petition of 1753[3], which states that there are two cracked bells in the ring of three, seeks permission to sell them in order to pay for repairs to the church.

There is no floor under the bell-frame and observations were made from a ladder. Of two foundation beams parallel to the north and south walls, one is complete and shows recesses for the end-posts of a three-bell frame; and the single surviving pit is against the east wall of the tower. The two remaining trusses have cambered lower cills into which the king-posts are mortised. The king-posts are supported by curved braces to the lower cills with additional head-struts[4], and the bell-pit is designed with a clearance of 28 inches (710 mm), between recessed frame-heads, for a bell of 3 cwt.

1. A similar feature is noted at Bixley, see p. 212.
2. C&C.
3. NRO., NDR., FCB. 3, fo. 13.
4. See p. 211.

ARMINGHALL

April, 1981.



Rough sketch of truss of bellframe.

Square tower of c. 1473.

BIXLEY, St Wandregesilius. August, 1979.

The unbuttressed tower has a stair turret at the south-east corner and stands at the west end of a nave which was heavily restored in 1863[1]. The tower batters slightly and is divided horizontally only by weathercourses at the base of the tower and below the parapet: it is built of flint rubble with a facing is of knapped flint. Limestone is used for the external quoins of the tower and for the details of the two-light west window; and brick, which is used structurally at the angles of the stair turret, is also used decoratively in alternation with flint in the voussoirs which mark the head of a former west window. The tracery of the west window, which is completely different to that shown in Ladbroke's lithograph of 1823[2], led Cautley to suggest a 14th century date for the tower[3]. Apart from that on the north side, which is formed from a loop-holed block of limestone, the openings to the first-floor chamber are simple slits, formed with brick. Above the level of the nave roof, and clearly visible from inside the tower, is a wide brick arch in the east wall. The filling of the arch, which is a carelessly-arranged mixture of flint and brick in contrast to the careful grading of material in the tower walls, is supported by a false tower arch below the level of the nave ceiling; and the thickness of the infill is much less than that of the structural walls. The ground-floor chamber has a plastered, arched opening to the nave, and the stairway which leads to the first floor is entirely of brick. Bequests to work on the tower in 1526 and 1538[4] suggest that it was left in an unfinished state, possibly awaiting the building of a higher nave.

The single bell has a diameter of 23 inches (585 mm) and weighs approximately 2 3/4 cwt.

1. G. MEARS FOUNDER LONDON 1858
I TO THE CHURCH THE LIVING CALL
AND TO THE GRAVE DO SUMMON ALL.

The 1552 Inventory records bells of 1 1/2 cwt and 2 1/2 cwt; and the predecessor of the existing bell was inscribed:

+ S'CE IOH'ES BAPTISTA ORA PRO ME.

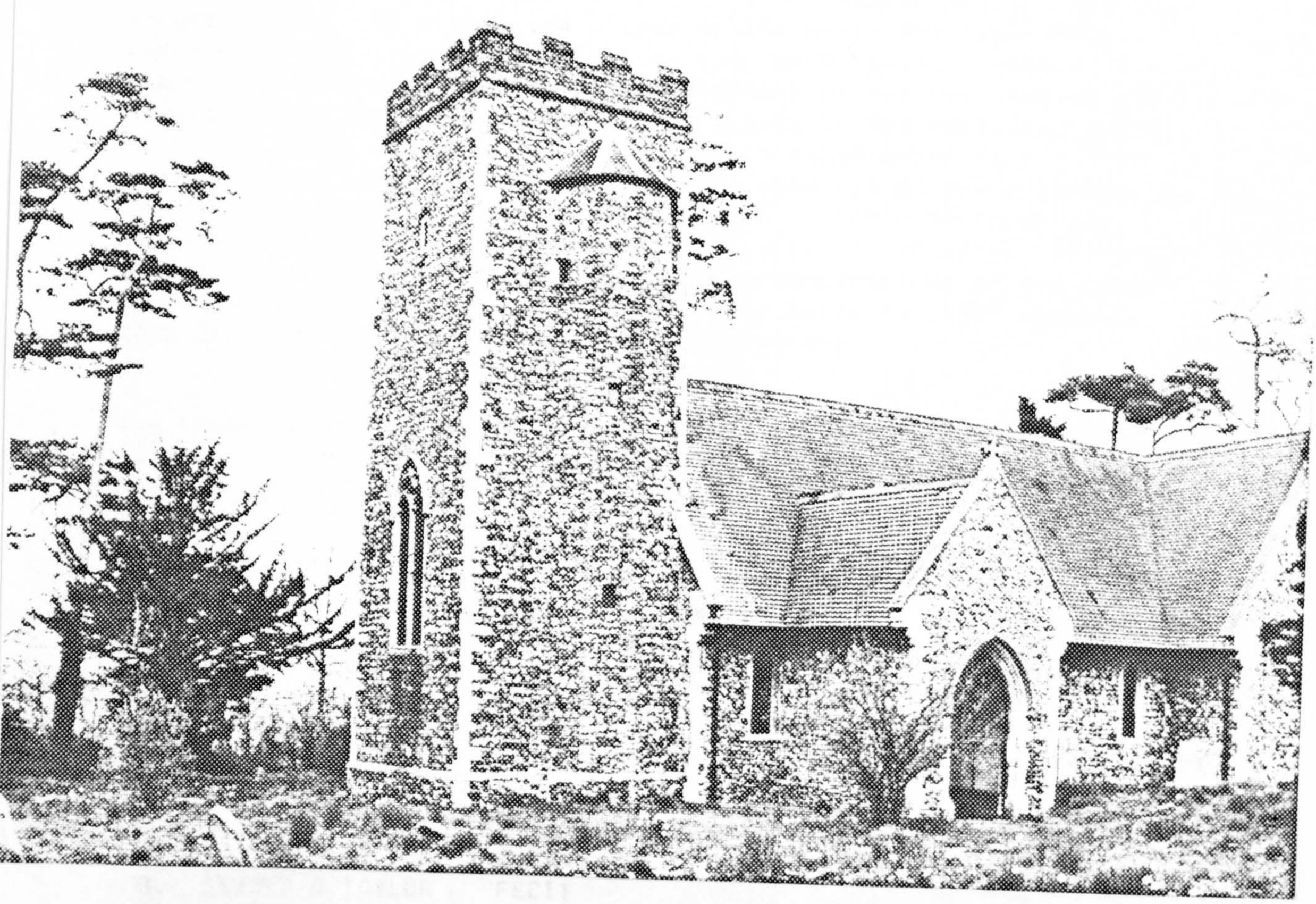
A copy of the lettering, preserved at the Whitechapel Bell-foundry, London[5], shows that the bell was probably the work of William Revel[6].

There is no structural first floor below the level of the tower roof, and the single bell is hung between two of three parallel beams, built into the walls and spanning the tower from east to west. It would appear that this arrangement, which could have accomodated the pair of bells mentioned in the 1552 Inventory, is contemporary with the tower structure, and it is likely that it was intended as a temporary measure to carry the bells in an incomplete tower, awaiting the construction of a proper bell-chamber.

1. Pevsner, p. 91. 2. Ladbroke. 3. Cautley, p. 176.
4. C&C. 5. Whitechapel Bell-foundry. Kimber Mss.
6. See p. 428.

BIXLEY

April, 1981.



Unfinished square tower of c. 1526-1538.

BRAMERTON, St Peter. August 1978.

The tower appears to have been constructed within the west end of a pre-existing church, and differences in the masonry of the west wall of the church shows that a former gable was extended upwards to form the west wall of the tower. Two previously existing openings seem to remain: a simple cinquefoil headed west window, and a narrow slit below the level of the former roof. The east wall of the tower was supported by building a transverse wall across the nave of the church, and the north and south walls of the tower were supported on massive brick arches. The tower has no ground-floor chamber proper, and the spaces beneath the wide brick arches to the north and south have squints through to the nave, that on the south having a neatly traceried filling. This unusual arrangement at the west end of the nave may have been to accommodate two altars in the recesses to the north and south of the tower[1]. The unbuttressed upper part of the tower batters, and there is very considerable use of brick inside the tower: the external details, however, are entirely of limestone, including the sound-windows which have cusped 'Y' tracery. It would appear from a bequest[2] in 1463 that the reconstruction of the church was then in progress, and a bequest to the bells in 1458[3] suggests that the tower is probably roughly contemporary.

The three largest of the eight bells are hung for ringing in full circles, and the five smallest arranged as a chime: the tenor has a diameter of approximately 30 inches (760 mm), weighs 5 cwt 1 qr 20 lbs and sounds C[4].

1. EDMUND D TAYLOR FECIT
   ME A.D.1928
   A. A. B. DEDIT
   Dominus Regit Me

2. EDMUND D TAYLOR FECIT
   ME A.D.1928
   A. A. B. DEDIT
   Venite Exultemus Domino

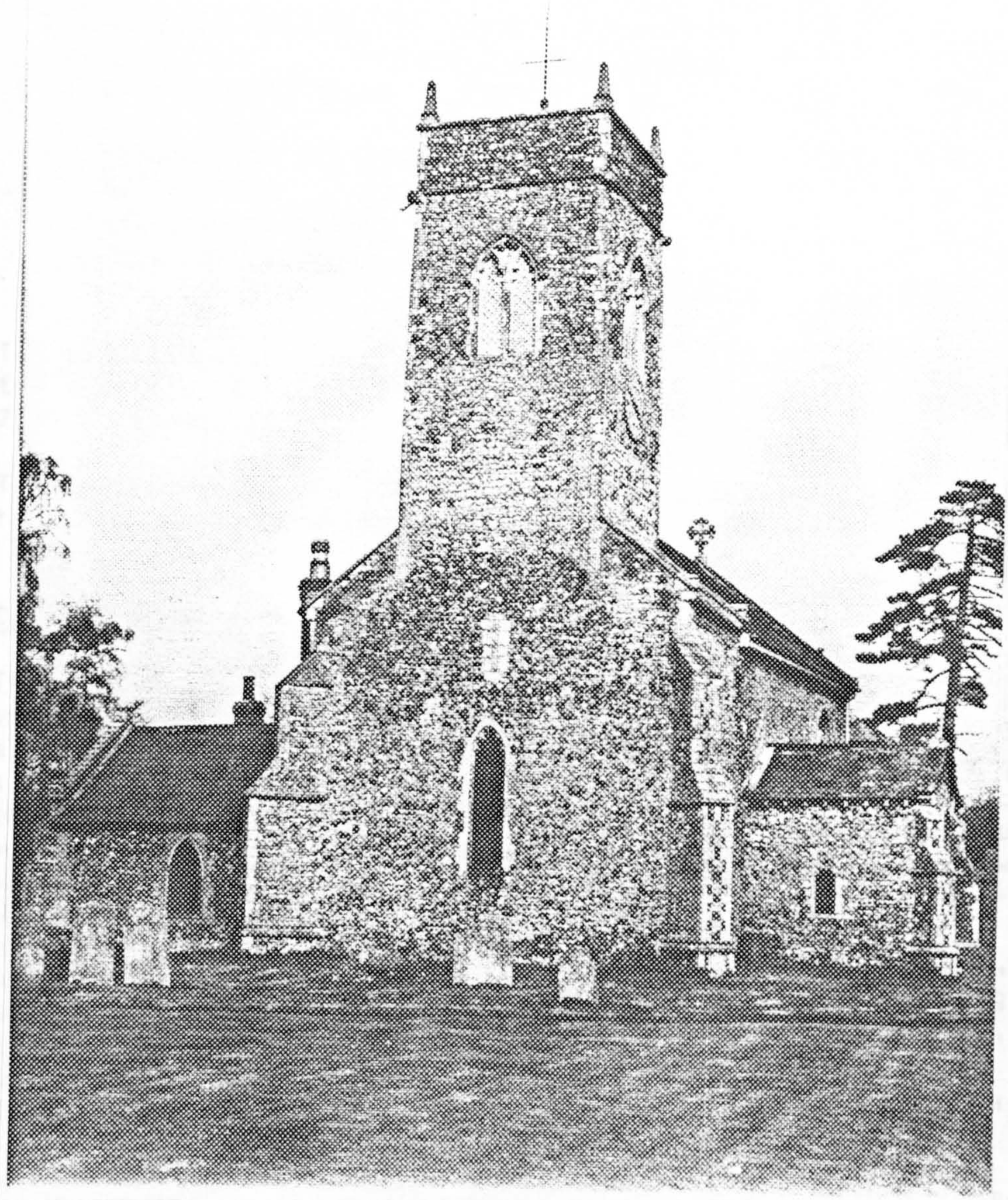
3. EDMUND D TAYLOR FECIT
   ME. A.D.1928
   A. A. B. DEDIT
   Te Deum Laudamus

4. EDMUND D TAYLOR FECIT
   ME A.D.1928
   A. A. B. DEDIT
   Jubilate Deo

1. The squints seem to serve no useful purpose other than to allow one person a view of the high altar from either of the western recesses.
2, C&C.
3. 1458, Alice Sendell of Bramerton. NCC Brosyard 82.
4. NDA.

BRAMERTON

April, 1981.



Square tower, probably completed in c. 1458.

5. EDMUND D TAYLOR FECIT
ME A.D.1928
A. A. B. DEDIT
Cantate Domino

6. EDMUND D TAYLOR FECIT
ME A. D. 1924
AUBREY ASTON BLAKE DEDIT
Benedicam Domino

7. Thomas Cory Anno Domini 1607
A. A. B. Recast 1924

8. EDMUND D TAYLOR DEDIT
ME A. D. 1924
AUBREY ASTON BLAKE DEDIT

ARTHUR JOHN BOLTON-MAGGS RECTOR
A. A. BLAKE)
WM. JOS. PERFITT) CHURCHWARDENS
Voce Mea Ad Dominum Clamavi

The 1552 Inventory records bells of 2 cwt, 3 cwt and 4 cwt, and all of the existing bells are by Taylors of Loughborough. The inscription on 7/8 is reproduced in fac-simile from the bell recorded by L'Estrange[1].
The smaller bells are bolted to a rolled steel joist, positioned above the metal frame in which the three larger bells were hung in 1924.

CAISTOR BY NORWICH, St Edmund. August 1979.

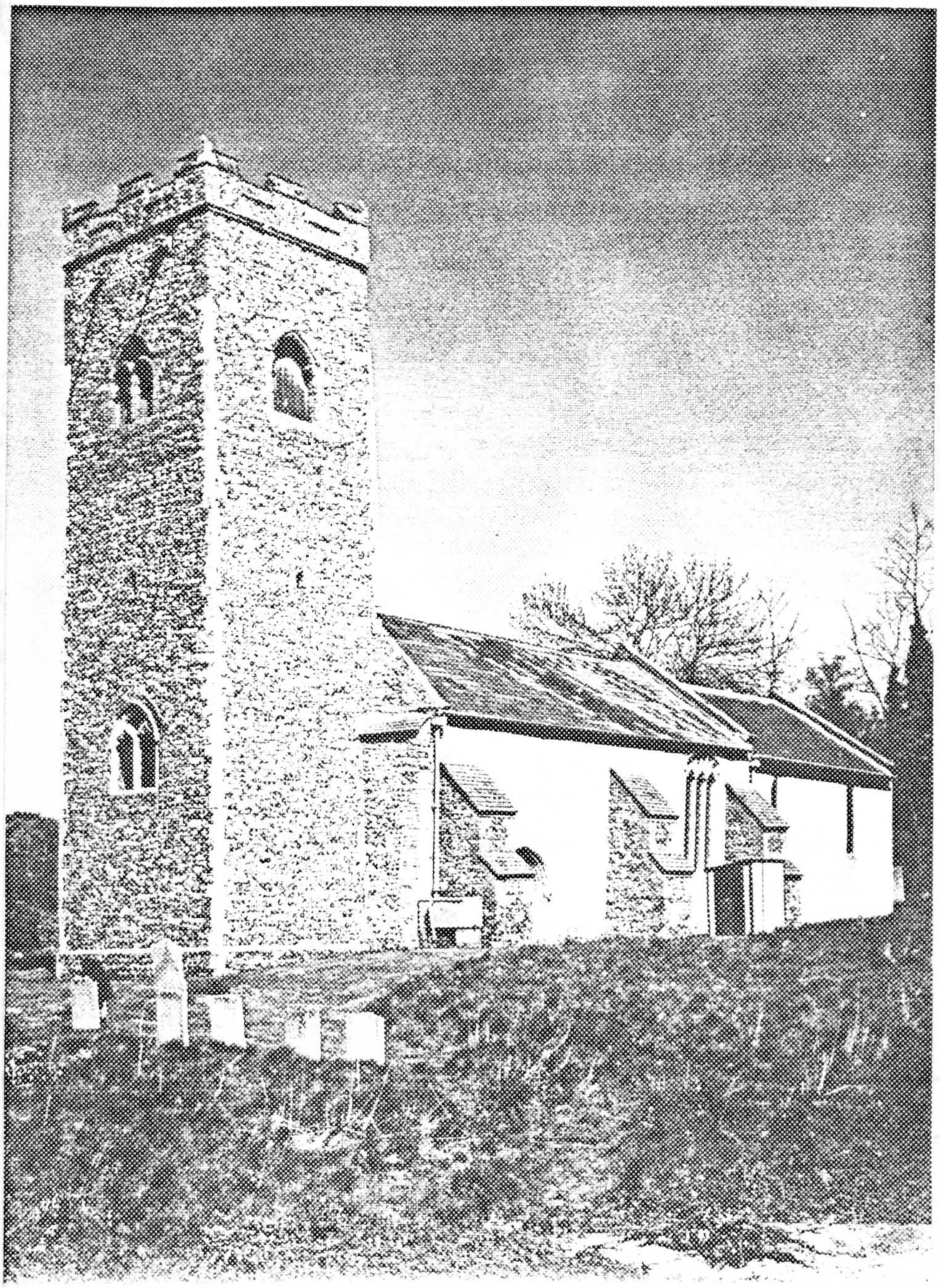
The square unbuttressed west tower appears from the outside to have been built in two distinct phases to a total height of about 55 ft (10 m). The building material is flint, and there are limestone quoins to a height of about 30 ft (10 m), with brick quoins above: the change in the quoining is paralleled by a change in the design of the put-log holes, which have limestone heads in the lower part of the tower and brick heads in the upper part. The west window to the ground-floor chamber is of two lights with details of limestone, there are simple rectangular lights formed in brick to the first-floor chamber, and the sound-windows have simple brick 'Y' tracery. The internal angles of the tower are of brickwork above the level of the first floor, as are all details of arched openings, and there is a short stairway in the thickness of the north wall of the tower to about 12 ft (4 m), above which height access is by ladders.

Bequests in 1526, of oak for the construction of the bell-frame, and in 1533, for the making of the bell-frame, suggest that the upper stage of the tower was under construction in about 1530[2], and the

1. CBN, p. 105.
2. C&C . The 1526 bequest is
'to the churche of Caster afore sayde to the reparation of the framys of the bellys x s. and an oke stondyng at Gostelyns place in Castre upon the highe waye ther from'

CAISTOR BY NORWICH

May, 1984.



Tower with upper stage probably of c. 1530.

style of the west window suggests that the lower part of the tower may date from c. 1400[1].

There is a single bell, diameter 31 1/2 inches (800 mm) weighing approximately 6 cwt.

1. + A V E M A R I A

The letters are on single paterae; and the bell appears to date from the 14th century[2]. Until 1972[3], when two bells were stolen, there were three bells inscribed[4]:

1. Anno Domini 1591 W B

2. Anno Domini 1592 W

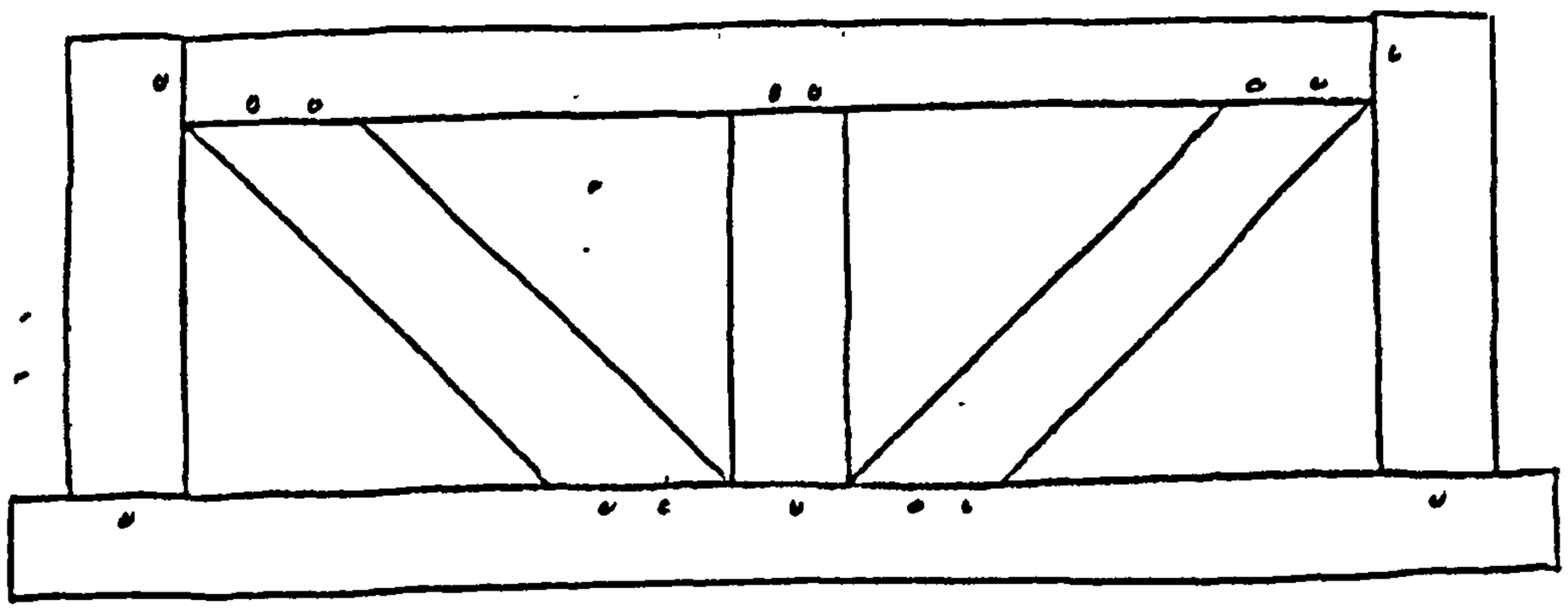
3. + A V E M A R I A

The 1552 Inventory records a single bell of 6 cwt.

The existing frame for three bells is a curious construction with unbraced king-posts and frame-heads which are additionally supported by unusually-designed inclined braces[5]. The timber appears to have been shaped by relatively modern tools, and the frame is supported by a boarded floor which does not appear to be particularly old. There is no direct indication of the date of the frame, but it seems unlikely that it is older than the 19th century.

CAISTOR BY NORWICH.

Truss of bell-frame.



1. Comparison of the tracery with the octagon at Quidenham, which dates from c. 1400 (C&C).
2. See p. 440. 3. Information from Mr G Ford, churchwarden.
4. CBN., p. 112. 5. See diagram above.

FRAMINGHAM EARL St Andrew. May, 1979.

The round west tower, which is of flint rubble and described as Norman[1], has few decorative features except for the small west window at the level of the ground-floor chamber and the four sound-windows, all of which have semi-circular heads.

There are two bells, the larger of which has a diameter of (700 mm) and weighs approximately 5 cwt.

1. Uninscribed

2. + ∴ O . FONS . ENVANGELII . FAC . NOS . CHERUBYN . SOCIARI

The 1552 Inventory records bells of 3 cwt and 5 cwt, and the larger bell is a very fine casting, probably by Thomas Derby of Norwich c. 1450[2]. There was a bequest to the bells in 1540[3]. The smaller bell, which has a diameter of only 13 inches (330 mm) and square cannons, looks like a typical stock 'house-bell', of which there are many. The bell-frame, which is designed for a single bell and does not look very old, has long frame-heads supported by inclined braces; and the small bell is in an independent frame of similar design.

FRAMINGHAM PIGOT, St Andrew. August 1978.

The church was consecrated in 1859[4] and replaced a small towerless church which had a massive brick bell-cote on the west gable[5].

There are three bells, tenor diameter 29 inches (735 mm) weighing approximately 5 cwt and sounding E.

1. P. HUBERD C W 1737

2. G. MEARS FOUNDERS LONDON 1859

3. G. MEARS FOUNDERS LONDON 1859

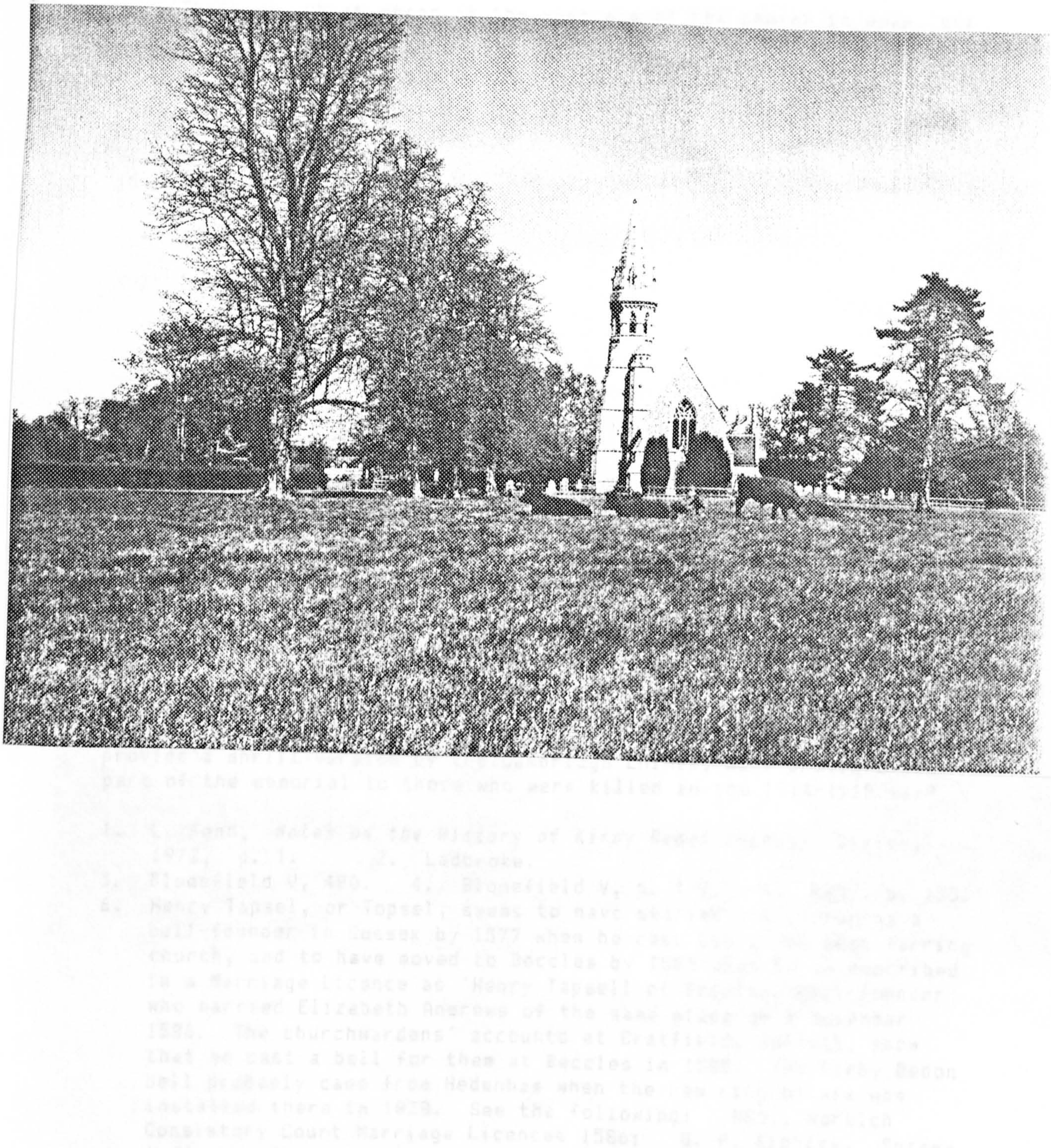
The 1552 Inventory records that two bells had been stolen about three years before the Commission. 1 is by Thomas Newman of Norwich.

The bell-frame is of oak and is designed to fit the existing bells into the octagonal bell-chamber. The trusses have inclined braces supporting long frame-heads, and the frame is clearly of the same date as the tower (1859).

1. Pevsner, p. 164. 2. See p. 434.
3. 1540. Robert Buntyng of Framingham Earl. NCC Mingaye 240.
4. R. Tricker, *Eleven churches: a guide to the Bramerton Group. Norfolk* , 1978.
5. Ladbroke.

FRAMINGHAM PIGOT

May, 1984.



Tower and spire of 1859.

KIRBY BEDON, St.Andrew. August 1979.

The church was substantially reconstructed in 1876 - 1885[1] when a new tower of brick with an external facing of flint was built to the design of R. M. Phipson of Norwich. Ladbroke's lithograph[2] shows a curious half-timbered construction at the west end of the nave, and Blomefield[3] records that:

> 'The tower which stood at the west end of the church is down, but now there is fixed up in the lower part of it a convenience to hang three bells in'.

There is a chime of three bells, tenor diameter 31 inches (785 mm) weighing approximately 6 cwt and sounding B, and there are four very small clock bells, the largest of which has a diameter of 13 inches (330 mm).

1. HENRY TOPSEL AN'O D'NI 1585 HEDNAM E * R R T

2. Uninscribed

3. ANNO DOMINI 1635 I B.

The four small bells are all inscribed:

GILLETT & JOHNSON CROYDON

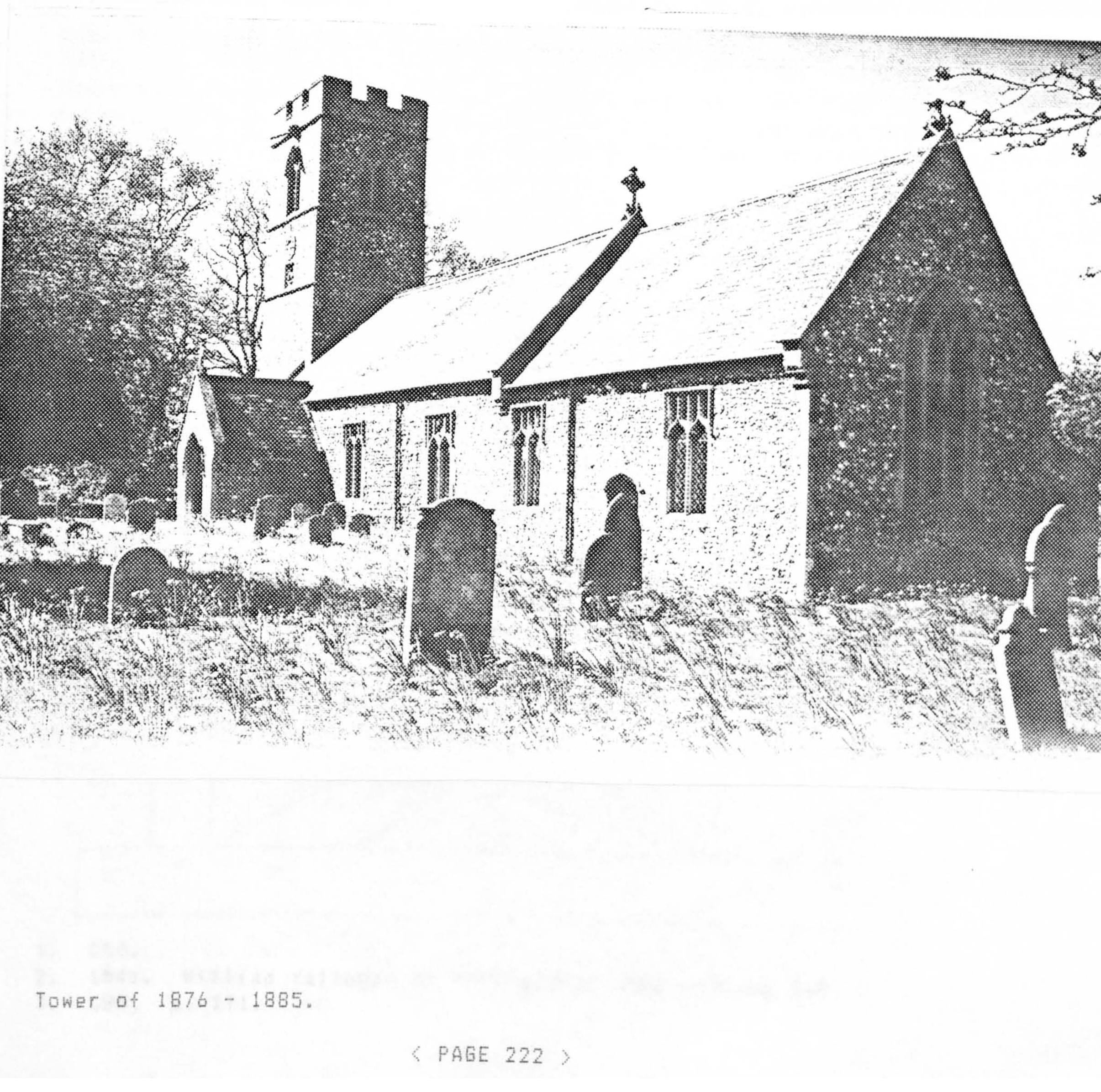
The 1552 Inventory records bells of 3 cwt and 8 cwt; and Blomefield[4] records that a pair of bells, which had been lately taken down from the tower of the dilapidated church of St Mary on the other side of the road, were rehung in St. Andrew's church. The three bells at present in the church are those recorded by L'Estrange before the construction of the present tower[5], and he notes that the treble bell had been brought from Hedenham to take the place of a cracked bell. The treble bell is by Henry Topsel and was probably cast at Beccles[6], 2 is an uninscribed bell with a profile suggesting the work of a 14th century Norwich bell-founder[7], and 3 is by John Brend II of Norwich. The small bells, which are connected to the clock mechanism and provide a shrill version of the Cambridge chimes, were provided as part of the memorial to those who were killed in the 1914-1918 war[8].

1. L. Fenn, *Notes on the History of Kirby Bedon church.* Bixley, 1972, p. 1. 2. Ladbroke.
3. Blomefield V, 480. 4. Blomefield V, p. 479. 5. CBN, p. 153.
6. Henry Tapsel, or Topsel, seems to have started his career as a bell-founder in Sussex by 1577 when he cast bells for West Tarring church, and to have moved to Beccles by 1585 when he is described in a Marriage Licence as 'Henry Tapsell of Beccles, Bell-founder' who married Elizabeth Andrews of the same place on 8 November 1586. The churchwardens' accounts at Cratfield, Suffolk, show that he cast a bell for them at Beccles in 1585. The Kirby Bedon bell probably came from Hedenham when the new ring of six was installed there in 1838. See the following: NRO., Norwich Consistory Court Marriage Licences 1586; G. P. Elphick, *Sussex Bells and Belfries*, London and Chichester, 1970, p. 87; W. Holland, *Cratfield Parish Papers*, London, 1895, p. 110.
7. See p. 440. 8. Fenn, *Op. cit.* , p. 3.

The bell-frame, which is designed for three bells and is of very much rougher workmanship than the floors and beams in the tower itself, has the appearance of being very much older than the tower, and is smaller in area than the floor of the bell-chamber. The trusses, which have long frame-heads supported by inclined braces, are sufficiently substantial to allow the bells to be rung in full circles, and it is suggested that the frame may well have been constructed for a ring of three bells at the time two were removed from St. Andrew's church: the design is certainly consistent with a date in the early part of the 18th century.

KIRBY BEDON

May, 1983.



Tower of 1876 - 1885.

PORINGLAND, All Saints. May 1978.

The lower part of the flint-built west tower to a height of about 30 ft (10 m) is round, and the octagonal bell-chamber, which is of flint rubble faced with knapped flint, completes a total height of about 50 ft (17 m). Apart from a much-restored small, semi-circular-headed window to the ground-floor chamber there are no features which enable a date for the round tower to be suggested. The sound-windows, which are of two lights with traceried heads, are in the cardinal faces of the tower, and the alternate faces have blind openings with cusped 'Y' tracery. All external details of the tower are of limestone, but brick is used for the internal details. No documentary evidence for the date of the belfry has been found, but a bequest to work on the making up of the church walls, suggesting that the height of the nave roof may have been increased in c. 1495[1], might also imply a date for the construction of the octagonal belfry.

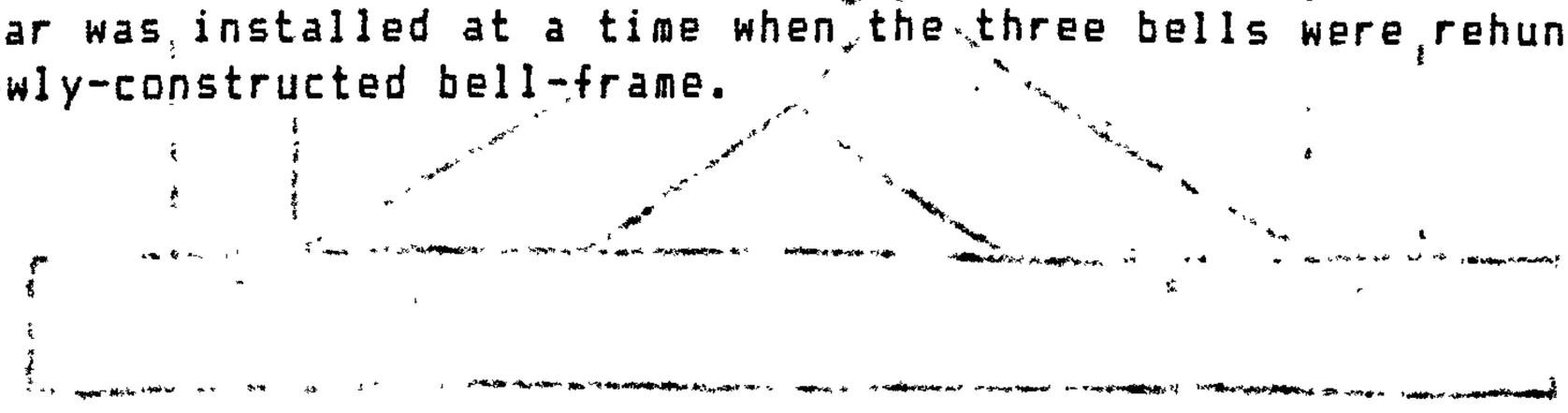
There is a single bell, diameter 32 1/4 inches (820 mm) weighing approximately 6 cwt.

1. Nos Sociat Sanctis Semper Nicholaus In Altis

There was a bequest to the bells in 1541[2], and the 1552 Inventory records bells of 3 1/2 cwt. 4 1/2 cwt and 5 cwt. L'Estrange notes that two bells had been broken to pieces in the tower and sold between 1827 and 1834[3].

A single pit, part of a bell-frame designed for three bells, remains; but the trusses have been much repaired and altered from their original design. The section of the timber is small, and mortises in some of the members suggest that the original design had king-posts supported by curved braces. The foundations, which appear to have been built on a single level, are supported by the second floor of the tower. Although it cannot be dated with certainty, the frame appears to be 17th-century.

The writer made a very rough sketch in 1978 of the remains of a windlass on the first floor of the tower, determining to make a second visit for an accurate drawing. By 1983 the roller had been removed and the only the foundations and the pair of vertical posts which supported it remained. The windlass, which was mounted on a very stout horizontal beam braced from below, did not appear to be of the same date as the round part of the tower (since there seemed to be disturbance of the masonry at the ends of the foundation beam); and since the upper horizontal beam forms and integral part of the floor which supports the bell-frame, it seems most likely that the lifting gear was installed at a time when the three bells were rehung in a newly-constructed bell-frame.



1. C&C.
2. 1541. William Yalloppe of Poringland. NFK Dowsyng 268.
3. CBN, p. 191.

ROCKLAND ST. MARY, St Mary the Virgin. July 1978.

The square west tower is constructed of flint and batters slightly from bottom to top, limestone is used for the tower quoins and for the details of the single-light window to the ground-floor chamber. The first-floor chamber has small rectangular lights formed in brick, and the sound-windows, which have lost their traceries, have brick details outside and inside. No documentary evidence has been found for the construction of the tower, but comparison with similarly tapering towers at Bramerton (probably c. 1460), Hedenham (c. 1417) and Arminghall (c. 1474) suggests a 15th century date[1].

The bells are a ring of three, tenor diameter 31 inches (790 mm) weighing approximately 6 cwt and sounding C.

1. ISAAC SMITH C W 1706

2. THOMAS NEWMAN MADE MEE 1706

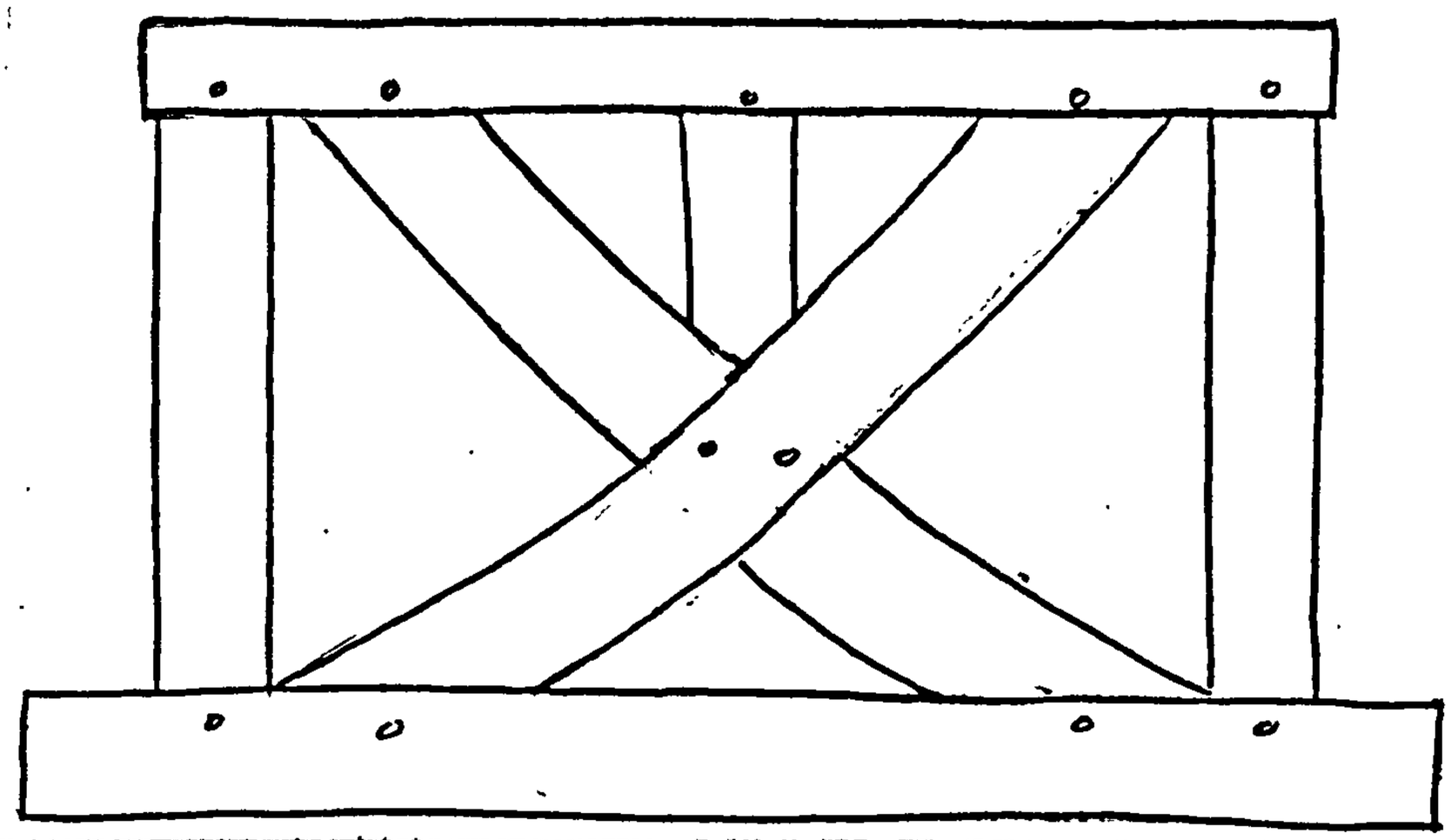
3. 1599

There was a bequest to the making of the middle bell in 1540[2], and the 1552 Inventory records bells of 1 cwt, 2 1/2 cwt and 3 1/2 cwt. 1 is by Thomas Newman of Norwich and 3 appears to be by William Brend of Norwich.

The unusually designed[3] frame for three bells is set diagonally, and has been patched at various times with a miscellaneous assortment of discarded timbers; part of an old set of louvres is used at one point, and the two of the corner-posts are nicely-turned table-legs such as might have come from a substantial communion table. It is impossible to assign a date to the structure.

ROCKLAND ST. MARY

Truss of bell-frame.



1. Dates from C&C.
2. 1540. Robert Spooner of Rockland. NFK Gillior 9.
3. See diagram above.

SAXLINGHAM NETHERGATE, St Mary the Virgin. August 1983.

The square west tower is built of flint and batters slightly from bottom to top: from the appearance of the weathermouldings and buttresses it appears that a tower which was originally about 30 ft (10 m) high was at a later date given buttresses and increased to a total height of about 55 ft (18 m). In the four walls of the tower at the level of the first-floor chamber there are large recesses which might be the blocked remains of former sound-windows, but other details are concealed by the internal rendering of the tower. There is a very fine stepped and embattled parapet with brick and flint chequered decoration. The appearance of the external stonework suggests that the west doorway and window are the result of a 19th century restoration of the tower, while the four sound-windows, of two lights with traceried heads, appear to be original. The stair turret, at the north-east corner of the tower, which is an addition to the earlier fabric, is constructed of flint and brick, and cuts across an earlier window opening at the level of the first-floor chamber. No direct documentary evidence for the date of the tower has been found, but it is likely that an increase in height might have taken place at about the same time as the raising and reconstruction of the nave roof, as suggested by a bequest in 1504[1].

The bells are a ring of eight, tenor diameter 36 inches (915 mm) weighing 8 cwt 1 qr 20 lbs[2] and sounding A.

1. MEARS & STAINBANK, FOUNDERS, LONDON
   TREBLE & 2ND. BELL WERE GIVEN TO COMPLETE THE OCTAVE
   BY R. W. PITT RECTOR. 1908.
   DAY HUNG US

2. MEARS & STAINBANK, FOUNDERS, LONDON, 1908.
   "WE PRAISE THEE O GOD"
   DAY HUNG US

3. MEARS & STAINBANK, FOUNDERS, LONDON, 1899.
   R. W. PITT RECTOR
   J. W. SEWELL)
   F. WILSON) CHURCHWARDENS

4. Anno Domini 1618

5. IOHN BREND MADE MEE 1651

1. C&C.
2. NDA.

6. MEARS & STAINBANK, FOUNDERS, LONDON, 1899.
   R. W. PITT RECTOR
   J. W. SEWELL)
   F. WILSON) CHURCHWARDENS

7. ANNO DOMINI 1616 W.

8. MEARS & STAINBANK, FOUNDERS, LONDON; 1899.
   R. W. PITT RECTOR
   J. W. SEWELL)
   F. WILSON) CHURCHWARDENS

There were bequests for bells in 1455 and 1473[1]; and the 1552 Inventory records bells of 6 cwt and 8 cwt and implies that a bell valued at £9-17-0 had been sold. 4 and 7 of the existing octave are by William Brend of Norwich.

L'Estrange[2] notes a ring of six as follows:

1. Anno Domini 1617
2. Present 3/8
3. Present 4/8
4. ..... churchwardens 1615
5. Present 7/8
6. No inscription.

The two-tier bell-frame is of metal, and dates from the restorations of 1899 and 1908.

1. 1455. John Gyles of Saxlingham. NCC Betyns 19.
   1473. Richard Canewold of Saxlingham. NCC Paynot 64.
2. CBN., p. 206.

SHOTESHAM ALL SAINTS, All Saints. August 1979.

The square unbuttressed west tower is constructed of flint and batters slightly from top to bottom. The external details of limestone include the quoins and window traceries, while brick is used decoratively in alternation with flint for the voussoirs of the window openings. The ground-floor chamber has a two-light window with a traceried head, and the sound-windows are also of two lights with distinctive traceries. The first-floor chamber, which is lighted by narrow lancet windows on the north and west sides, is approached by means of an iron stairway on the outside of the tower. Although no documentary evidence has been found for the date of construction of any part of the church, the design of the nave windows suggests a late 15th century date[1], and the traceries of the sound-windows have an early 16th century parallel at Morningthorpe[2].

The bells are a ring of five, tenor diameter 43 1/2 (1110 mm) supposedly weighing 10 cwt 3 qr 0 lb[3] and sounding G.

1. + GLORIA IN EXCELSIS + RECAST 1615 AND 1901
2. Anno Domini 1622
3. + CELI REGINA MICHI SEMPER SIT MEDICINA
4. + Fac Margareta : Nobis Hec Munera Leta
5. Anno Domini 1622

L'Estrange[4] notes the inscription on the former treble as:

Anno Domini 1615,

and that it was by William Brend of Norwich.

The 1552 Inventory records bells of 5 cwt, 7 cwt, 9 cwt and 12 cwt, and two pre-Reformation bells remain; 3 was probably cast by John Magges[5] and 4 was probably cast by Richard Baxter[6], both at the Norwich bell-foundry. 1 is by Taylor of Loughborough, and 2 and 5 are by William Brend of Norwich. The metal bell-frame dates from the restoration of 1901[7].

1. Compare with Saxlingham Nethergate of c. 1504 (C&C) and Alburgh of c. 1464 (C&C).
2. See p. 123.
3. NDA. Local ringers, however, insist that the bell weighs about 15cwt: the diameter certainly suggests a weight of that order.
4. CBN., p. 210
5. See p. 435.
6. See p. 428.
7. Date appears on various of the castings.

SHOTESHAM ST. MARY. August 1978.

The west tower is rectangular with its slightly longer axis north-south: there are diagonal buttresses at each of the four corners, the two eastern buttresses being visible from inside the nave. In its two lower stages the tower is constructed of flint rubble with a mixture of brick headers, while the upper stage, reaching to a total height of about 60 ft (20 m), is constructed solely of brick. The facing of the entire tower is knapped flint, and the external use of brick and limestone is in interesting contrast. Limestone is used for the quoins of the section of the tower above the level of the buttresses, for the quoins of the buttresses, and for the tracery of the two-light west window to the ground-floor chamber. Brick is used for the weathermouldings across the tower faces and buttresses, and for the obtuse angles of the stair projection and buttresses; it is also used for the jambs, voussoirs and simple 'Y' tracery of the sound-windows. The voussoirs of the west window are of alternate brick and flint, and the brick parapet has short brick pinnacles. At ground level the opening from the tower to the nave is an unshafted arch with simple plaster mouldings, the stairs to the first floor are entirely of brick, contained in a turret at the north-east corner. The details and use of materials, suggest that the date of a bequest in 1533[1] is a very probable one for the construction of the tower, and the reconstruction of the western parts of the nave.

There are two bells, of whch the larger has a diameter of 37 1/2 inches (950 mm), weighing approximately 9 cwt, and hangs in the tower, while the smaller stands on the floor of the chancel. The small bell in the gable-cote at the east end of the nave was not closely inspected.

1. EDW: TOOKE MADE ME 1675

2. THOMAS NEWMAN MADE MEE 1730
   IOHN FAM. C. WARDEN.

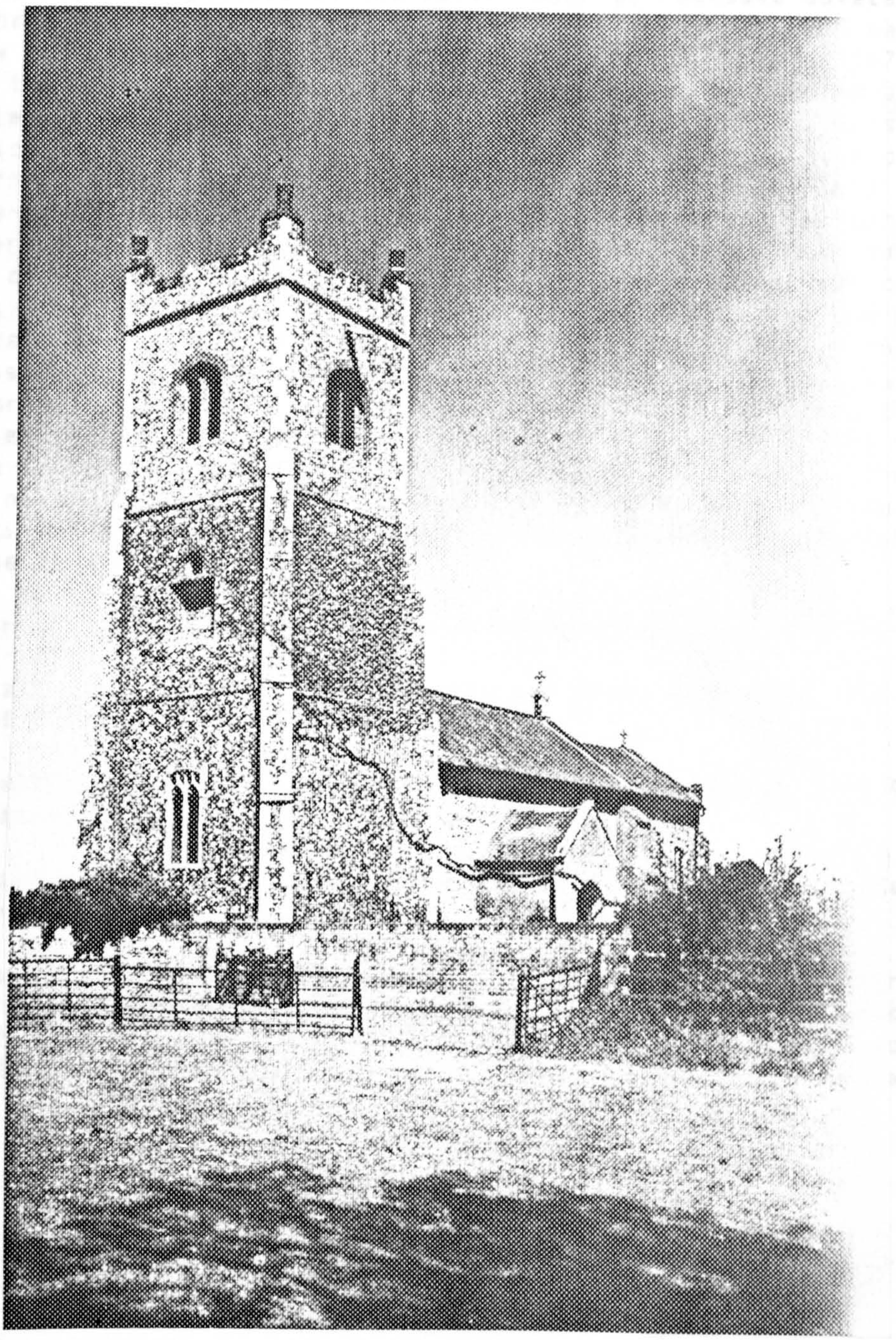
The 1552 Inventory records bells of 6 cwt and 10 cwt.

The existing bell-frame appears to be an almost complete survival of a structure which is contemporary with the upper stage of the tower: some additional bracing has been noted in the eastern pit, and defective flooring has recently been replaced. The frame, which is built to accomodate three bells, has trusses which are set asymmetrically on the foundations to allow additional bell-pits to be formed along the north side to take additional bells[2]. The frame is supported on a stout boarded floor, resting on a set of joists whose ends are built into on off-set. The lowest foundation timbers of the frame, which rest on the floor, are three in number and measure

1. C&C.
2. This standard practice is followed by modern bell-hangers.

SHOTESHAM ST. MARY

May, 1984.



Tower of c. 1533.

13 inches (330 mm) wide by 8 inches (200 mm) deep: two lie close to the north and south walls of the bell-chamber above the off-set, and the intermediate beam is centred at approximately 3 ft 5 inches (1050 mm) from the north wall. A second layer of foundation beams which runs north-south across the full width of the tower has two outer beams measuring 10 inches (260 mm) wide by 8 inches (200 mm) deep, and an inner pair 11 inches (280 mm) wide by 8 inches (200 mm) deep. The second layer is jointed to the lower layer by recessed dovetail joints at the ends of the beams, and the central pair of beams is pared to allow the passage of a bell whose diameter was 42 inches (1070 mm). With the exception of the north-west corner-post (which has a dog-legged tenon joint to both levels of the foundation beams) all vertical posts are tenonned directly into the upper surface of the uppermost foundation beams. The king-posts are recessed into the frame-heads and are secured into mortises. Three of the four corner-posts of the frame are jointed at their top ends to support a pair of timbers at right-angles, but that at the south-east corner seems to have been modified from its original form. The end-posts of the central pit have mortises for the frame-heads, and are themselves recessed and tennoned into the top cills[3]. Each king-post is supported by an angled brace from the foundation beams, and the two trusses of the central pit have additional struts connecting the frame-heads to the end-posts of the trusses[4]. All four of the original long frame-heads running north-south remain, and the ends of the pits are closed by top cills running east-west for the full width of the tower.

The frame is designed to hold three bells as follows:

East pit: 3 ft 1 1/2 inches (950 mm) wide, ungrooved, for a bell of 9 1/2 cwt.

Centre pit: 3 ft 6 inches (1070 mm) wide,grooved at 3 ft 9 1/2 inches (1150 mm), for a bell of 14 cwt.

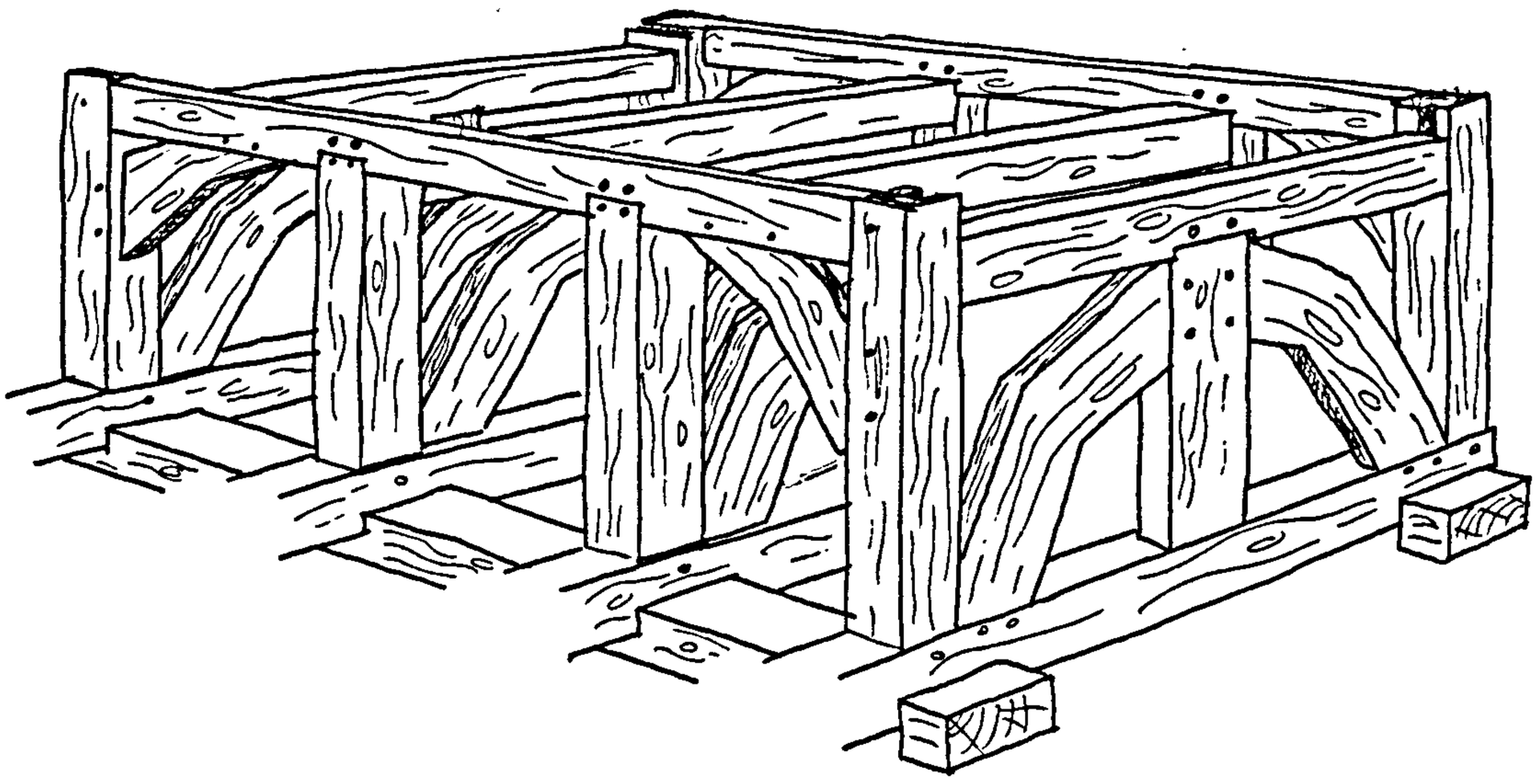
West pit: 3 ft 3 inches (990 mm) wide, ungrooved, for a bell of 11 cwt.

The design of the frame is unusual in that the bells swing north-south instead of east-west, implying that the designer must have decided that the rigidity of the tower along its longer axis was of more importance than the support given by the nave along the east-west axis.

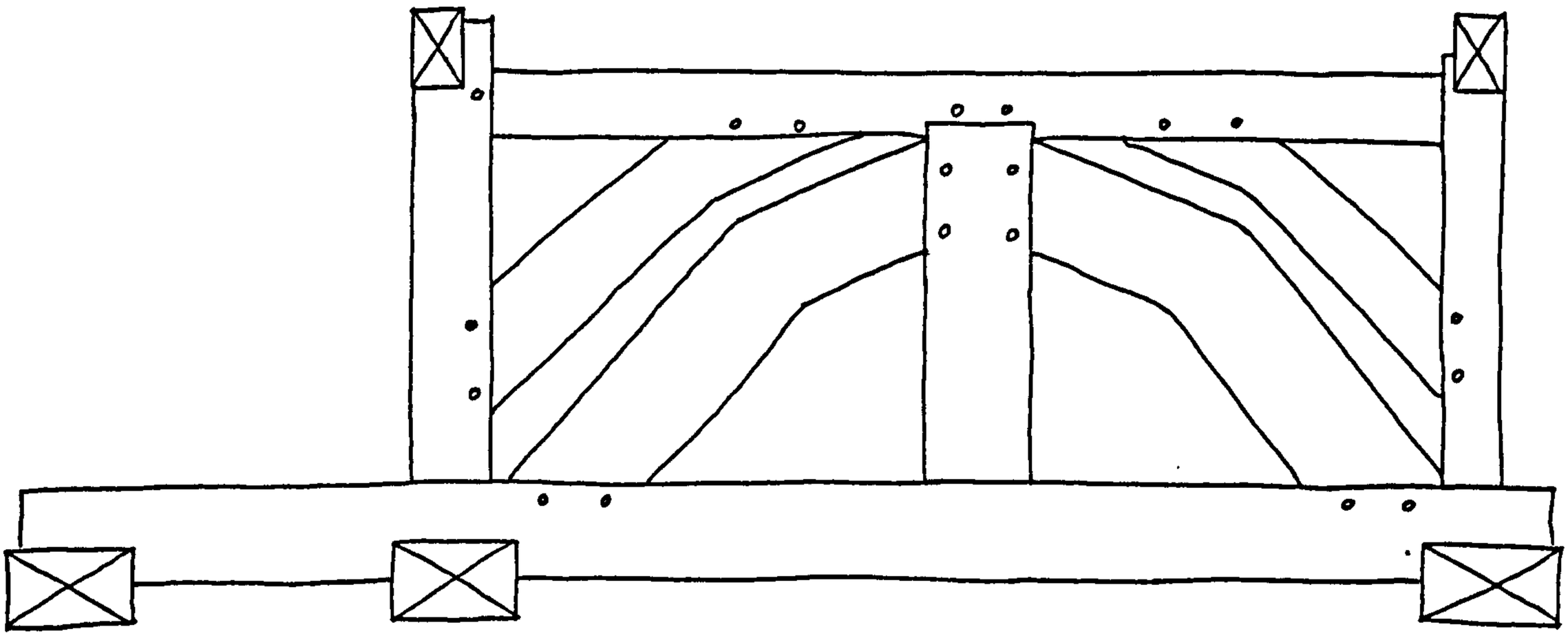
1. See diagram, p. 231.
2. See diagram, p. 231.

SHOTESHAM ST MARY, St Mary the Virgin August 1978

Perspective sketch of the bell-frame

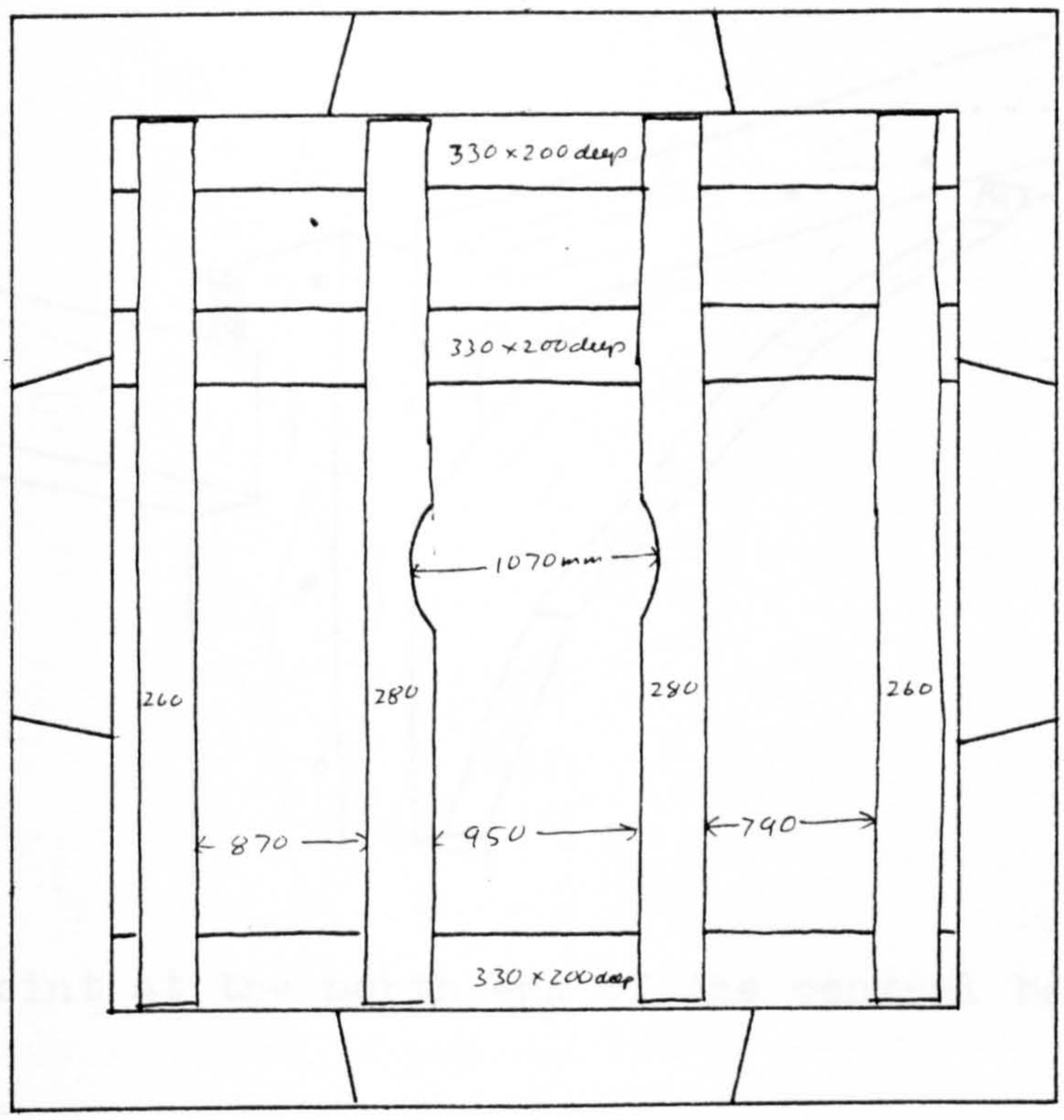


Section across the bell-frame along the east truss of the central bell-pit. Sketched at 1:25.



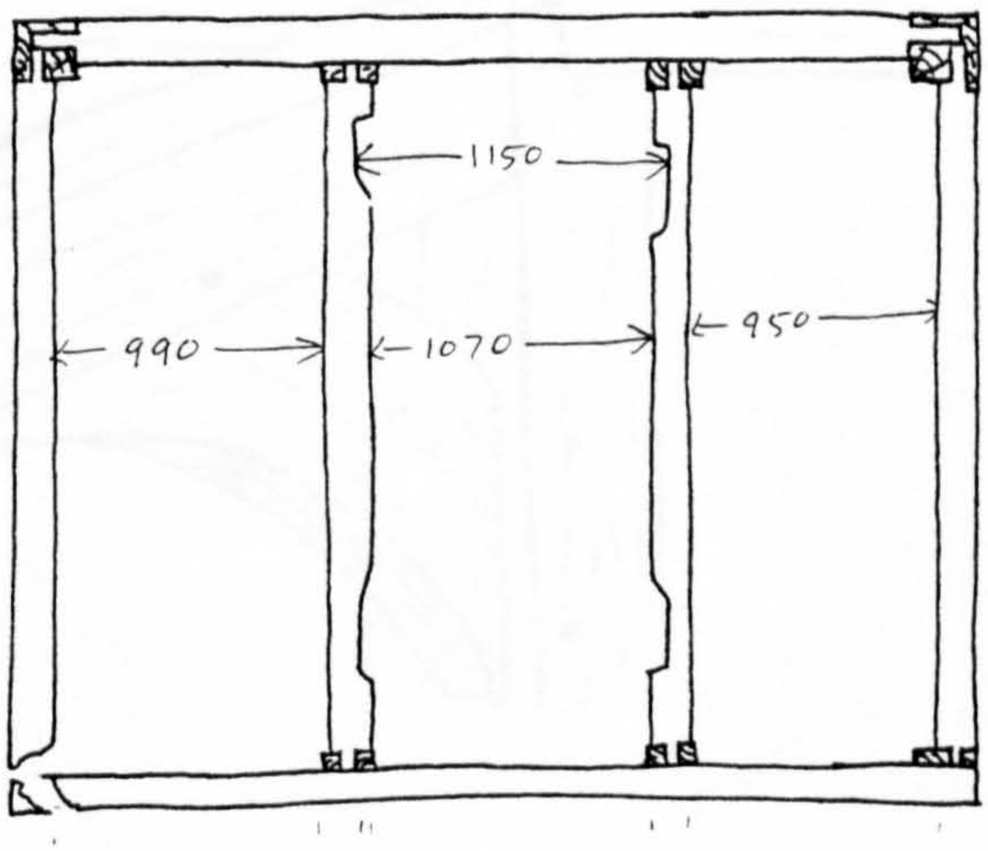
<u>SHOTESHAM ST MARY, St Mary the Virgin</u> August 1978.

Foundations of bell-frame sketched at 1:50



N

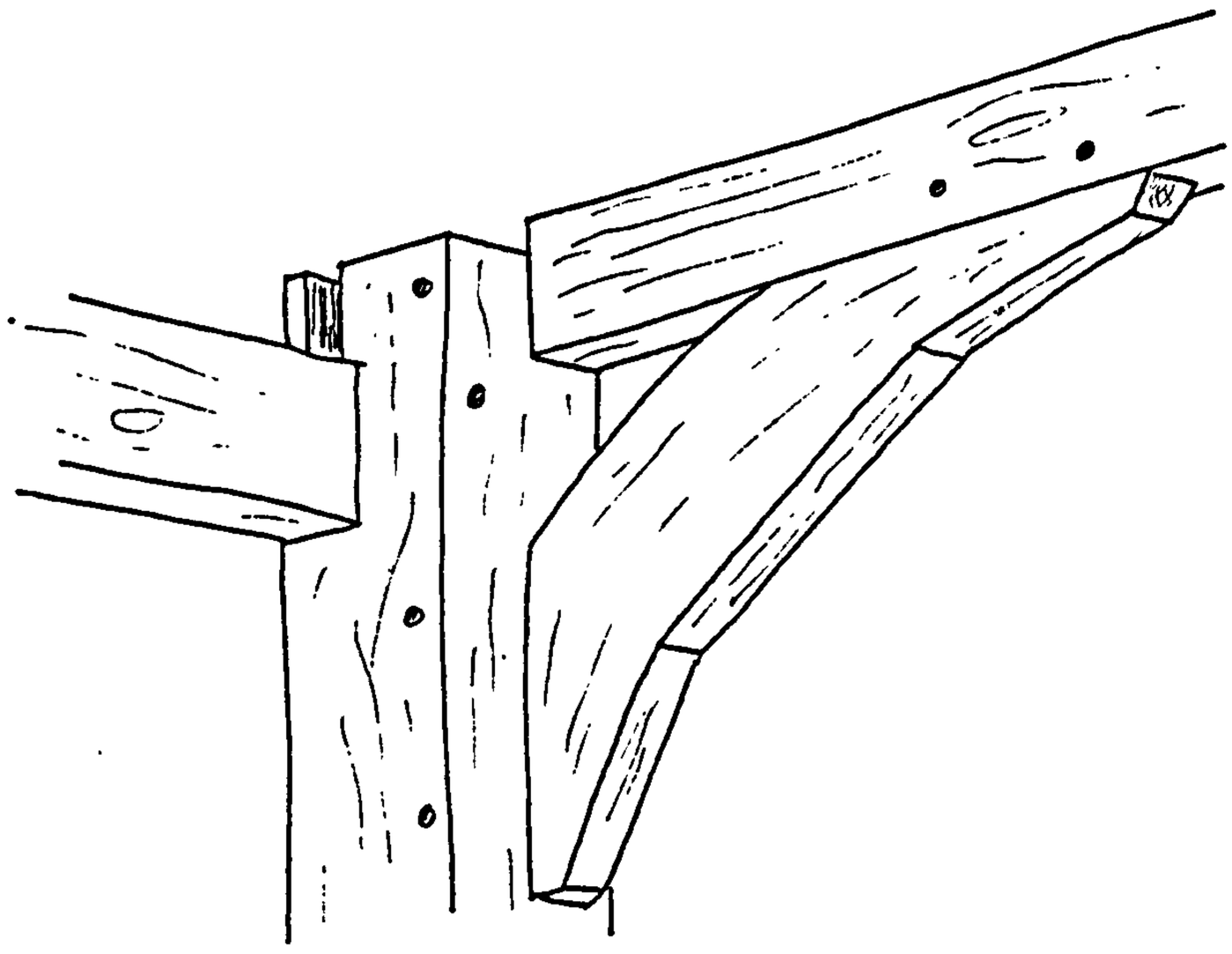
Plan of frame-heads sketched at 1:50



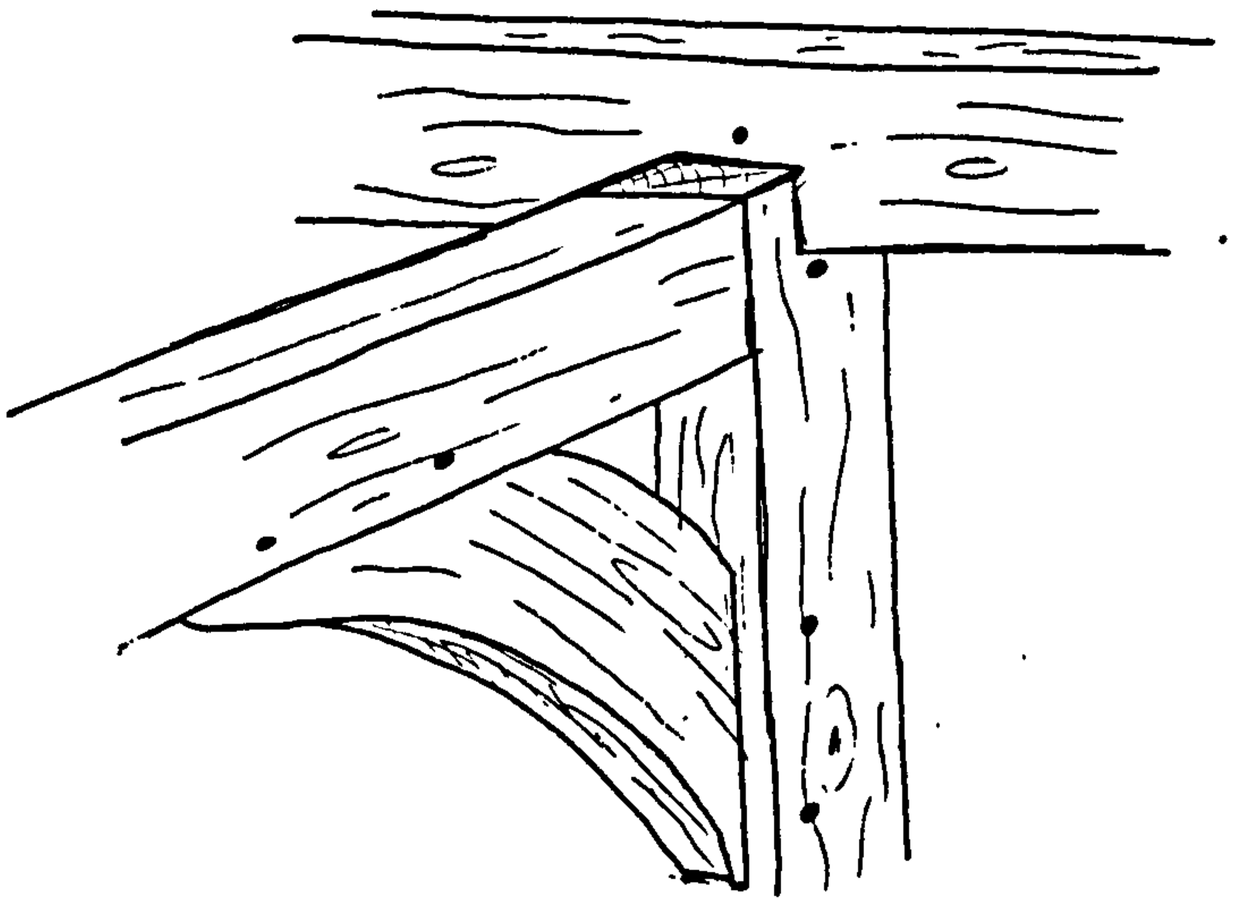
N

SHOTESHAM ST MARY, St Mary the Virgin. August 1978.

Sketch of joint at the north-west corner of the frame.



Shetch of joint at the north end of the central bell-pit.



STOKE HOLY CROSS, The Holy Cross. April 1978.

The church was heavily restored in 1879, when many of the window openings were renewed[1]. The square west tower is of flint with diagonal buttresses to the south-west and north-west, and the external details of window openings and quoins are of limestone: the lower stage seems to have been altered to make the details of the window consistent with the 14th century design of the renewed nave. Inside the first-floor chamber there are corbels for roof-timbers and the outline of a former saddle-backed roof which suggest an increase in the height and a change in the design of the tower. The inside of the bell-chamber shows considerable use of brick in the walling, as well as for the formation of the jambs and soffits of the two-light sound-windows. No documentary evidence has been found for the tower, but a date of c. 1500 is suggested for the upper part, by comparison of the traceries of the sound-windows with those at Morningthorpe[2]:

There are two bells, the larger of which has a diameter of 28 1/2 inches (725 mm) weighing approximately 4 1/2 cwt and sounding C.

1. + In Multis Annis : Resonet Campana Iohannis

2. IOHN BREND MADE ME 1640

The 1552 Inventory records bells of 5 cwt, 7 cwt and 8 cwt, and 1 is a pre-Reformation bell from the Norwich bell-foundry, probably cast by John Baly[3]. L'Estrange[4] noted three bells, including the two listed above and a third, larger bell inscribed:

E. B. 1661.

The bell-frame is designed for three bells, two of them swinging side by side from north to south, and the largest swinging east to west. The frame rests on a boarded floor, and all trusses have inclined braces cut from very slight timber. There is no indication of the date of the frame, but its design and construction do not suggest great age.

1. Pevsner, p. 327.
2. See p. 123.
3. See p. 429.
4. CBN., p. 215.

SURLINGHAM, St Mary the Virgin. May 1978.

The west tower is round for the lowest 40 ft (13.5 m) or so, with an octagonal belfry completing a total height of about 55 ft (18 m). The courses of large flints in the lowest 25 ft (8 m) or so of the tower are very similar to those in the west wall of the nave, whose corners are completed without the use of dressed stone: a possible Anglo-Saxon date for the wall is supported by the evidence of blocked round windows in the tower. The ground-floor chamber has a small west window with a cinquefoil head which appears to be a later insertion. The upper part of the round tower is constructed of smaller flints, laid less neatly than those lower down, and the blocked remains of four large sound-windows show that these had brick jambs. The octagonal belfry, which is constructed of flint with a liberal mixture of brick, is faced with knapped flint, and the internal details of the sound-windows are of brick, while the outer details and traceries are of limestone. Bequests in 1458 and 1466[1] suggest a date for the octagonal belfry.

The bells are a ring of four, tenor diameter 32 3/4 inches (830 mm) weighing approximately 6 cwt and sounding C. The bells are tuned to the Dorian Mode.

1. IOHAND: BAKER: NICHO BRICKHAM: GUARDIAN ECCLESIUND
   I S FECIT 1718
2. DA GLORIAM DEO 1584
   HENRY WOOD
   JOHN PERSOO'
3. + VIRGINIS EGREGIE VOCOR CAMPANA MARIE
4. + IOHANNES CRISTI CARE DIGNARE PRO NOBIS ORARE

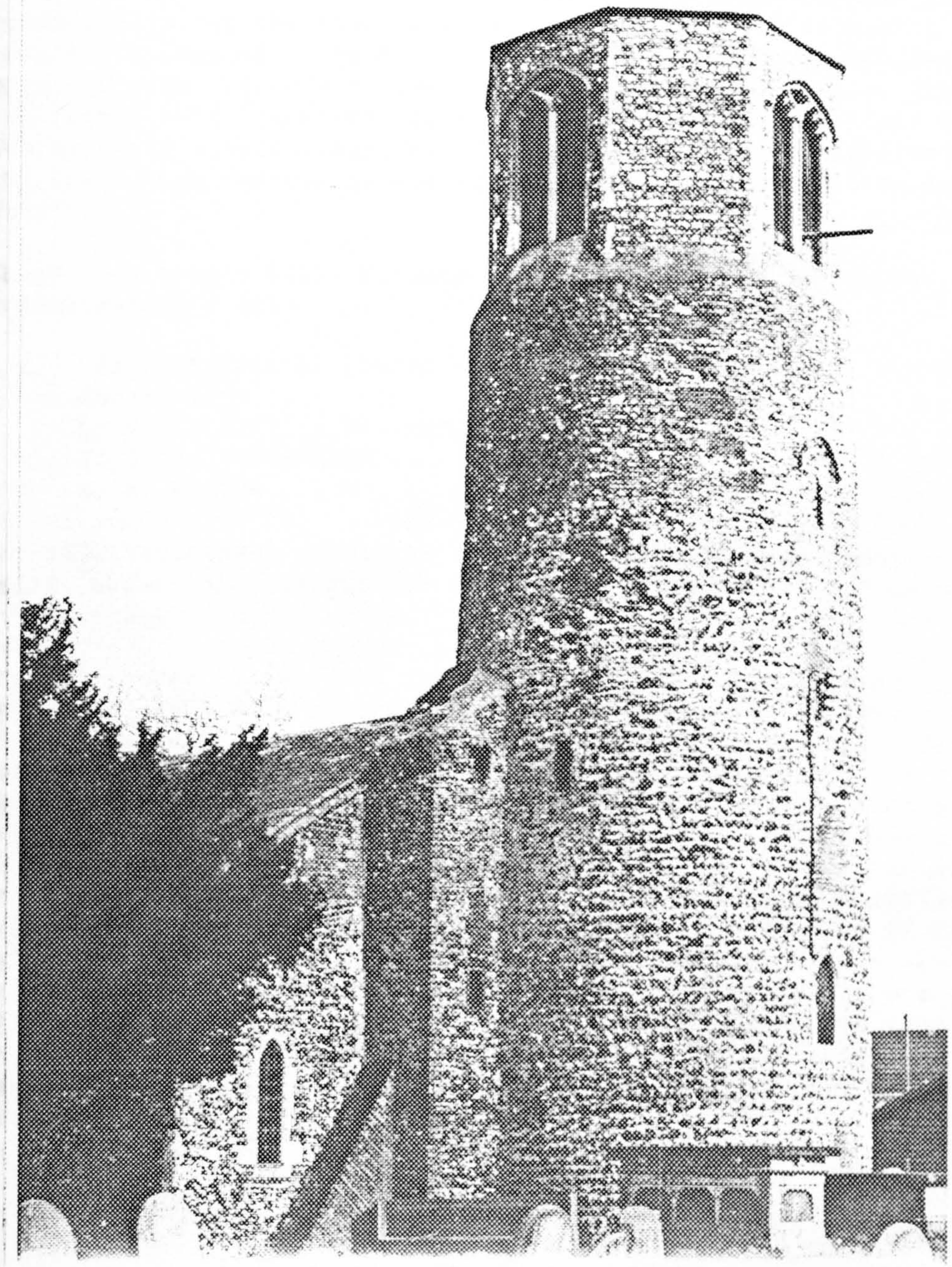
The 1552 Inventory records bells of 1 cwt, 2 cwt and 3 cwt; and 3 and 4 are by London founders: 4 is by William Dawe of London who was working in the period 1381 - 1418[2], and 3 is by an unknown predecessor. 1 is by John Stephens of Norwich, and the very roughly cast 2/4 is probably by William Brend of Norwich.

The bells were rehung in an iron frame designed for a ring of five in 1883 by Messrs Moore, Holmes and Mackenzie of Harleston[3], whose unique ringing fittings were fully restored in 1979[4].

1. C&C.
2. See p. 441.
3. Letter among the collection at the Whitechapel Bellfoundry, London.
4. Under the direction of the writer.

SURLINGHAM

April, 1981.



Round tower built in three phases, with octagonal belfry of c. 1458-1466.

TROWSE, St Andrew. August 1979.

The square west tower, which is unbuttresed and batters distinctly from top to bottom, is constructed of flint rubble and faced with knapped flint. The external details, including the quoins and the window traceries, are of limestone, and brick is used decoratively in alternation with flint in the voussoirs of the west window and of the sound-windows. The west window to the ground-floor chamber is of three lights and the stonework has every appearance of having been completely renewed. The first-floor chamber has three single-light openings with cinquefoil heads; and the four sound-windows are each of two lights with traceried heads: the internal details of all openings are of brick. No documentary evidence has been found for the date of the tower, but the design and construction suggests a 15th-century date[1].

There is a single bell, diameter 26 inches (660 mm) weighing approximately 4 cwt.

1. LESTER & PACK OF LONDON FECIT 1767
   Recast 1959
   L. W. TILLETT M.A. RECTOR
   J. O. M. WEDDERBURN)
   H. A. WESTON) WARDENS

The 1552 Inventory records bells of 2 cwt, 3 cwt and 4 cwt; and two bells, whose total weight was 9 cwt 0 qr 7 lbs, were sold to Mr Money of Norwich in 1760[2].

The bell-frame is designed for three bells to swing east-west and appears to be a much altered version of the original frame. There are foundation beams along the east and west walls, into which four cambered tie-beams are jointed. Two trusses which appear to retain their original form are the north truss, which has been surrounded by brickwork in a restoration of the tower, and the south truss of the central pit. Both original trusses have king-posts with curved braces and head-struts, while the two other trusses have simple inclined braces. All except one of the corner-posts and end-posts of the bell-pits remain, and these are dog-legged over the two levels of the foundation beams. The foundation beams of the centre pit are pared to allow a bell whose diameter was 33 1/2 inches (850 mm) to pass through. The reconstruction of the frame, which included the replacement of two of the original trusses, has left clearances for the following ring of three bells:

North pit 2 ft 3 inches (685 mm) for a bell of 3 1/2 cwt.
Centre pit 2 ft 7 inches (785 mm) for a bell of 5 cwt.
South pit 2 ft 8 inches (810 mm) for a bell of 6 cwt.

It seems that much of the frame is of the same date as the tower and is probably 15th-century.

1. Comparison can be made with similarly tapering towers at Bramerton (probably c. 1460), Hedenham (c. 1417) and Arminghall (c. 1474). Dates from C&C.
2. Churchwardens' accounts., NRO., PD 216/57.

YELVERTON, St Mary the Virgin. May, 1978.

The square west tower, which is built of brick with a facing of knapped flint, rises to a height of about 50 ft (16.5 m) and has an embattled parapet of brick. Apart from certain date-stones, the only appearance of limestone is in the details and tracery of the west window. The east wall of the tower is supported by the west wall of the nave, and there are diagonal buttresses with neatly formed brick quoins at the north-west and south-west corners. A segmental head above the existing west window probably marks the outline of the original opening, and the present two-light window with limestone tracery has every appearance of a Victorian insertion. The first-floor chamber has simple rectangular lights on three sides, and the four sound-windows have segmental heads. Two of the inscribed date-stones on the south side of the tower are legible: at a height of about 10 ft (3.5 m) a stone is inscribed;

James Hobart laid this 1673,

and at a height of about 18 ft (6 m) a stone with a distinct brick surround is inscribed:

1674 THOMAS THETFORD WORKEMAN.

The prominence of this latter stone suggests the tower was built under the diection of Thomas Thetford, as master-mason, who was certainly in Yelverton in 1670 when a son, William was buried, and in 1672 when a second son, also called William, was baptised[1]. The treble bell is dated 1678, and this may suggest that the tower was then complete.

The bells are a ring of three, tenor diameter 34 1/2 inches (875 mm) weighing approximately 7 cwt and sounding A.

1. EDW: TOOKE MADE ME 1678
2. Anno Domini 1613
3. Anno Domini 1624

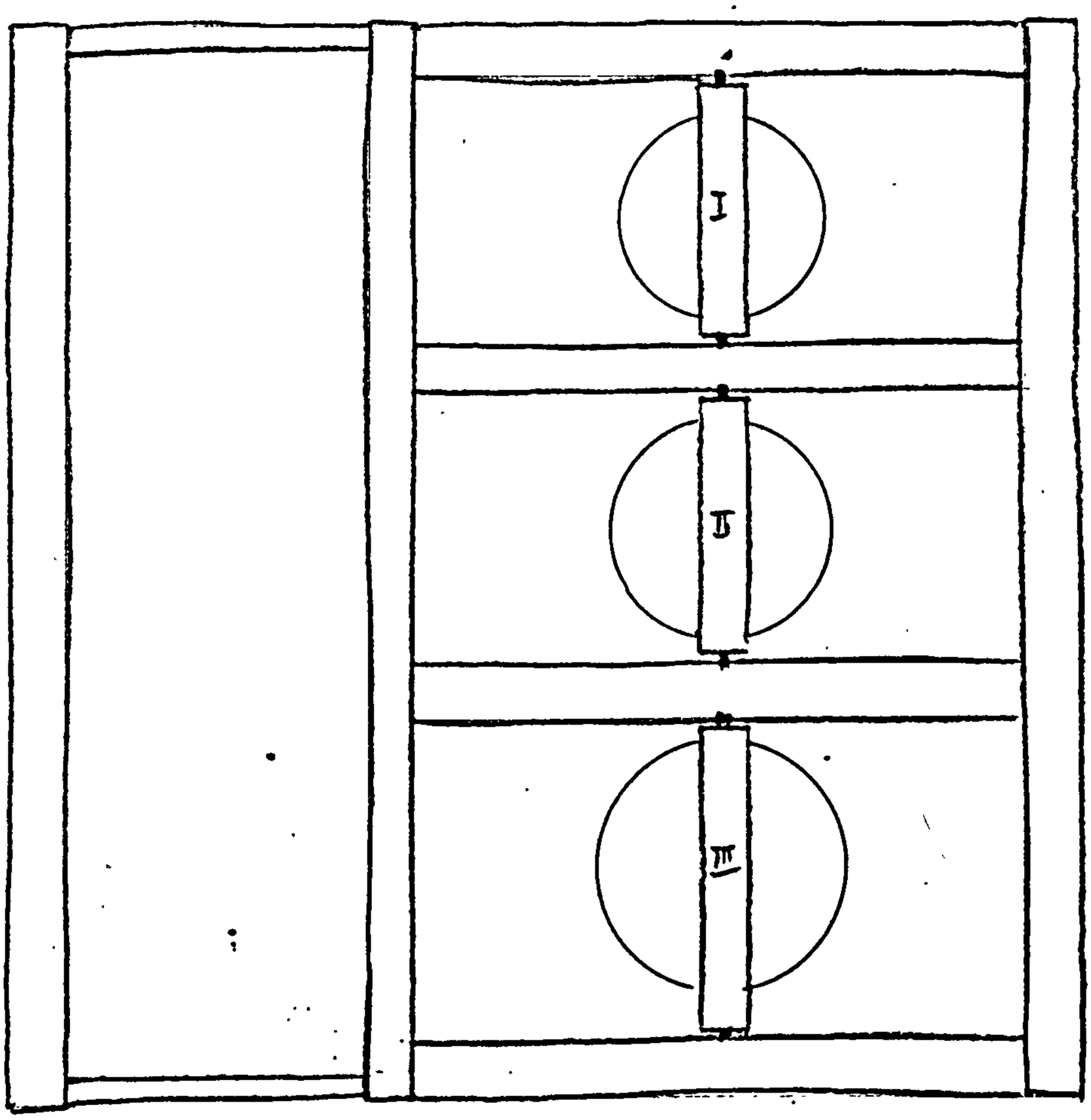
The 1552 Inventory records bells of 3 cwt, 4 cwt and 5 cwt; and 2 and 3 of the present ring are by William Brend of Norwich. A small bell hanging in the opening for the rood-loft stairs is not easily accesible, but details were recorded by J. J. Raven, who states that when the three bells were rehung in 1873 the small bell was found under the mass of twigs and rubbish in the tower: it was inscribed with the initials of William Brend[2].

The bell-frame is designed for a ring of five bells, but appears never to have held more than three. The appearance of the timber suggests

1. Parish Register. NRO., PD 316/1.
2. J. J. Raven, 'The Church Bells of Norfolk', published in R. H. Mason, *The History of Norfolk*, London, 1884, p. 603.

that the frame is much older than the restoration of the bells in 1873[1]. There are many similarities in the design of the frame tothat at Norwich, St Stephen [2], and to frames associated with 17th century Brend bells at Aslacton[3] and Broome[4]; and it is suggested that the frame is of the same date as the tower. The design is for the two smaller bells of the proposed ring of five to swing mouth to mouth parallel to the west wall of the tower, and for the three larger bells to swing side-by-side at right-angles[5]: the trusses have inclined braces without king-posts.

YELVERTON



Unmeasured plan of bell-frame.

1. See p. 238.
2. See p. 385.
3. See p. 92.
4. See p. 249.
5. See sketch below text.

YELVERTON

May, 1981.

Tower of c. 1674.

HUNDRED OF LODDON

ASHBY ST. MARY, St Mary the Virgin. June, 1978.

The west tower is square with diagonal buttresses. There is no west doorway, and the three-light west window has tracery which appears to be comparatively modern[1]. The reveals of the window openings at the level of the first-floor chamber show that these were formerly larger, and the bell-chamber, with its two-light windows (two of which have lost their tracery), is seen from the inside to be substantially of brick with an outer facing of flint. The heavy embattled parapet is of knapped flint with a liberal mixture of brick, and the coping and quoins are also of brick. No bequests have been traced, but the design, together with the liberal use of brick, suggests a 15th-century date for the lower parts of tower: the bell-chamber may have been added towards the end of the century and was probably complete by the time of a bequest for bells in 1472[2]. An entry in the Parish Register[3] refers to work on the tower as follows:

> 'The great charge to repayre the steeple and bells was in the year 1698. Edward Youell Rector, Mr William Holmes and Robert Woodruff Churchwardens then.'

The parapet, therefore, may well be an addition of c. 1698.

The bells are a derelict ring of three with a cracked tenor, diameter 30 inches (762 mm).

1. MR IAMES HOLMES GARDIAN 1708
2. ANNO DOMINI 1631
3. + Missus Vero Pie * Gabriel Fert Leta Marie

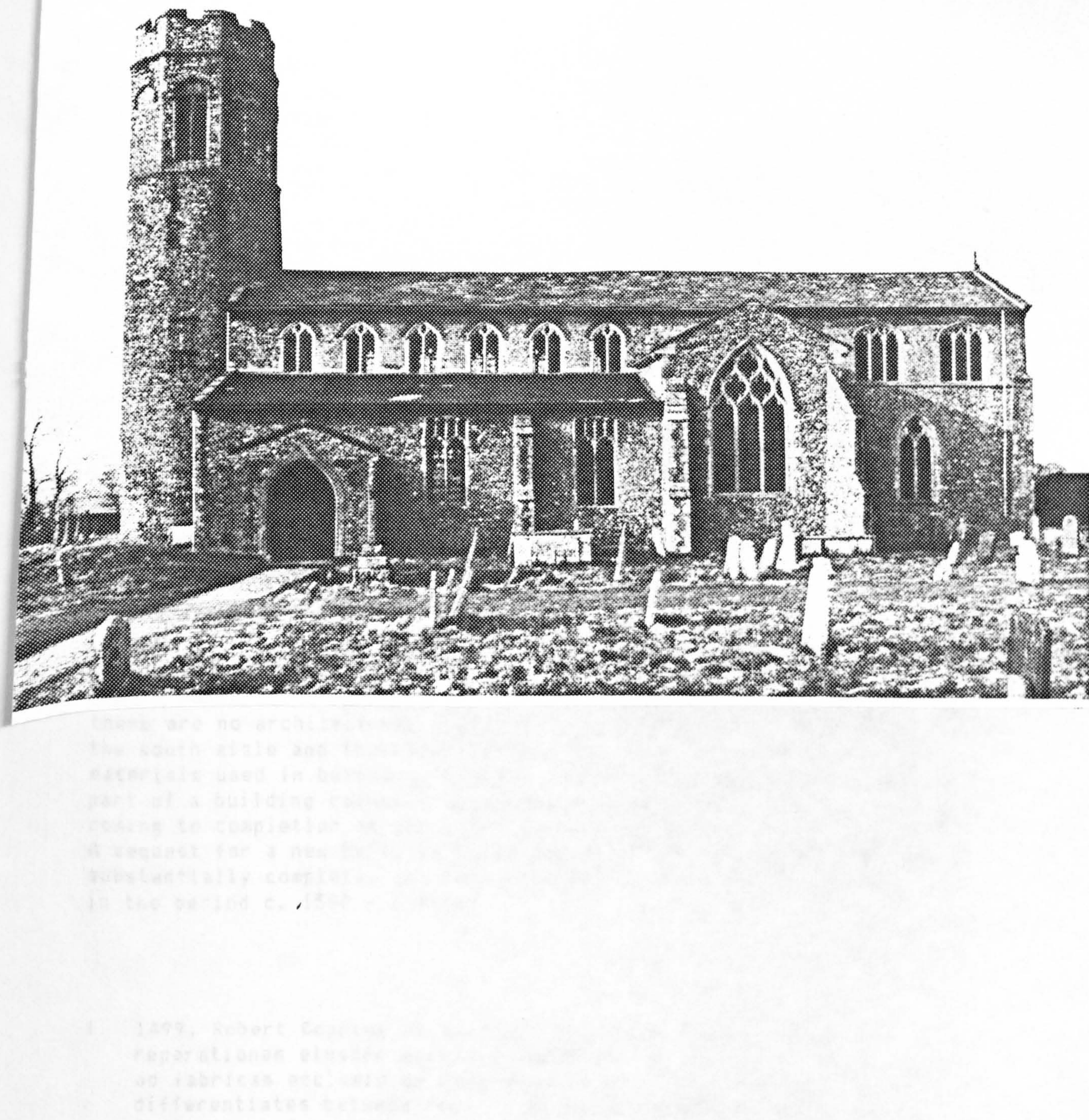
1 is by Thomas Newman, 2 is by William Brend, 3 is a pre-Reformation bell probably cast by Richard Brasyer II[4]: all three bells were cast by Norwich bell-founders. There was a bequest in 1472 for the provision of new bell, to be acquired within a space of four years[5], and the 1552 Inventory records bells of 1 1/2 cwt, 2 cwt and 2 1/2 cwt.

The bell-frame is in very poor condition, with many of its timbers apparently re-used from parts of an earlier frame: it is probable that its reconstruction was part of the 1698 scheme[6], completed by the recasting of the treble bell in 1708. There are three parallel pits, the trusses having king-posts and straight braces which are jointed at their tops to both the king-post and frame-head[7].

1. See R. Tricker, *Eleven Churches*, Bramerton, 1978, p. 13.
2. 1472, Thomas Kees of Ashby St. Mary, NCC Jekkys 269.
3. NRO. PD 425/1.
4. See p. 431. 5. See note 1. 6. See note 3.
7. Similar trusses appear at Carleton St. Peter, see p. 254, diagram 6.

BEDINGHAM

April, 1979.



Round tower with octagonal belfry probably added in the period c. 1500 - c. 1515.

BEDINGHAM, St Andrew. April, 1979.

The west tower, which is round for the lowest 45 ft (14 m) or so, has an upper octagonal stage of about 20 ft (6.5 m), and a parapet which is faced with knapped flint. The round section of the tower appears to have been built in two phases. The lower section of 30 ft (10 m) or so is of rough flintwork which includes large iron-stained nodules, and the same materials are visible in the west wall of the church, where a vertical row of flint quoins and the line of a former roof define the outline of the original nave. The opening to the nave is tall and narrow, with shallow imposts to the semi-circular arch, and the limestone details of the two-light window to the ground-floor chamber suggest that this is a later insertion. At the level of the first-floor chamber narrow openings to the north, west and south have arched heads and deep internal splays; all details are of flint, and the soffits of the arches formed in hard mortar. There is a blocked doorway in the east side which was formerly open to the nave. A further 15 ft (5 m) or so of the round tower is of different construction to the work below, and the only variation from flint is seen in the limestone jambs of a second, eastern opening to the nave (now blocked). The octagonal belfry, which is about 20 ft (6.5 m) tall, is constructed of rough flint and faced with knapped flint. The traceries of the two-light sound-windows in the cardinal faces of the octagon are copied in flushwork on the alternate faces. While all the external details of the octagon (including the quoins) are of limestone, the internal details (including the soffits and voussoirs of the sound-windows, and the internal angles of the octagon) are of brick. The octagonal belfry relies for some of its support on a set of brick pilasters which rise from the top of the wall of the lowest round section, across the internal face of the thinner wall of the upper section of the round part of the tower, to terminate in neat brick arches below the octagon.

The structural details and the use of materials suggest that the lowest 30 ft (10 m) of the tower is of the same date as the probably 11th-century or 12th-century west wall of the nave, but the upper part of the round tower cannot be dated with any degree of certainty, since there are no architectural features. Comparison with the details of the south aisle and the nave clerestories, and consideration of the materials used in building, suggest that the octagonal belfry may be part of a building campaign suggested by a bequest in 1499[1], which was coming to completion at about the time of bequests in 1518 and 1520[2]. A bequest for a new bell, in 1513[3] suggests that the tower was then substantially complete, and that the date of the octagonal belfry is in the period c. 1500 - c 1515.

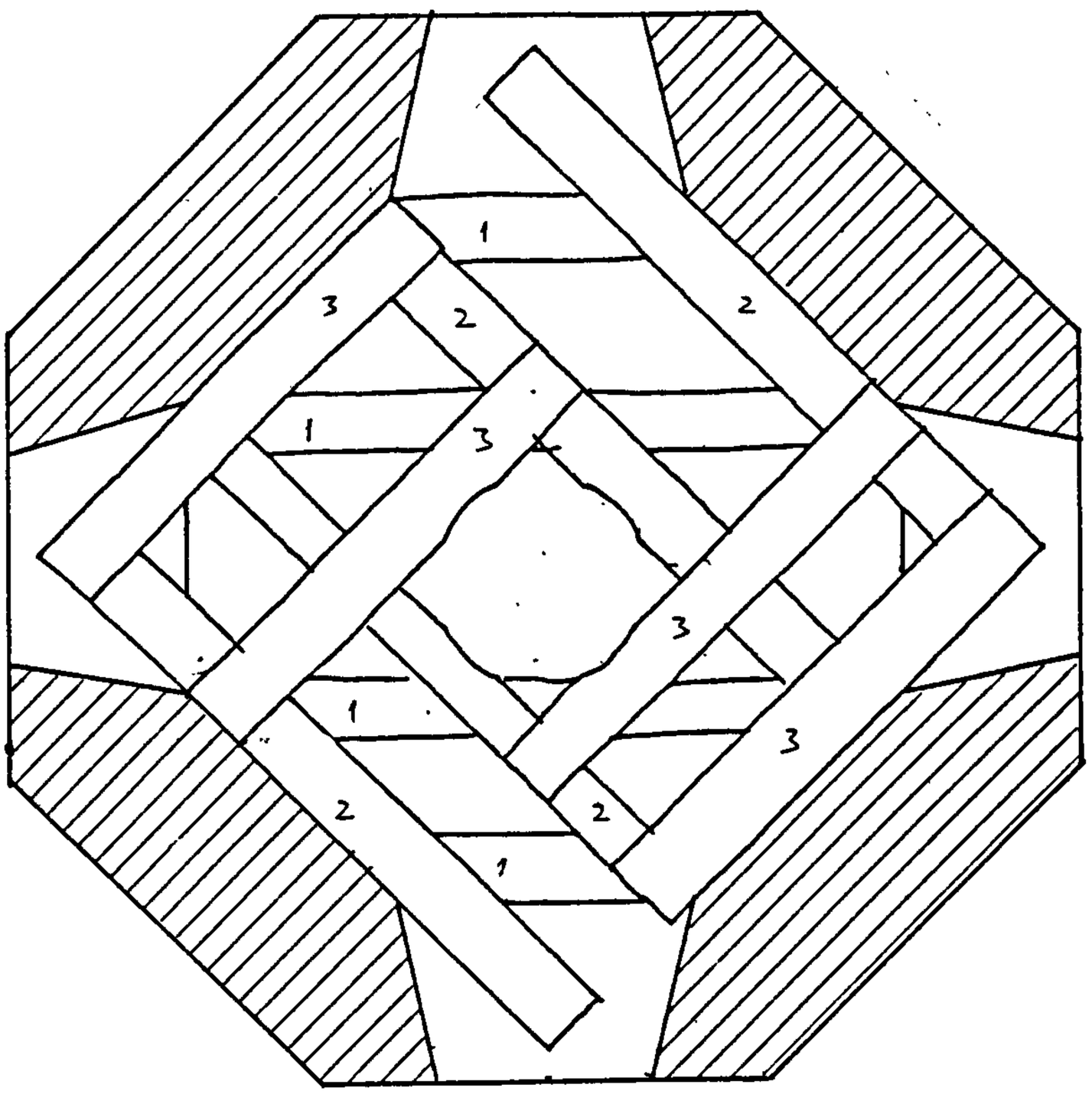
1. 1499, Robert Copping of Woodton, NCC Wight 7: '... lego ad reparationem eiusdem ecclesie (Woodton) vj s. viij d. ... lego ad fabricam ecclesie de Bedyngham ij s. ...'. The will differentiates between repairs at Woodton, and construction at Bedingham. The conclusion of the work at Bedingham is suggested by later wills, see notes 2 and 3.
2. C&C.
3. C&C.

BEDINGHAM, St Andrew 12 April 1979

Diagram A.

Plan of the foundations of the bell-frame showing the three levels of foundation beams.

North



Scale: 1 : 50

[illegible]

The bells are a derelict ring of five, tenor diameter 35 1/2 inches (902 mm) weighing approximately 8 cwt and sounding A flat.

1. J TAYLOR FOUNDER LOUGHBOROUGH 1842
2. + IOHN GOLDSMITH FECIT 1710 THO COOPER RECT. W S C W
3. PACK AND CHAPMAN OF LONDON FECIT 1778
4. ANNO DOMINI 1573 I B
5. r s t f g h k l m i k l o p q r r s t

A bequest to the bells in 1513 has already been noted[1], and the 1552 Inventory records bells of 3 cwt, 4 cwt, 6 cwt and 8 cwt. 4 is by John Brend I of Norwich, and 5 is a pre-Reformation bell from the Norwich bell-foundry, possibly cast by John Aleyn[2], whose inscription is formed from from short lengths of consecutive letters from the founder's letter-moulds. The earliest book of churchwardens' accounts records the levying of a parish rate in 1710[3] for undefined work on the bells, and the scheme must have included the casting of the existing second bell. Since a terrier of 1760[4] records a ring of five bells, the treble must have been recast or exchanged for a new bell in 1842, when Joshua Hurry of Norwich acted as an agent for John Taylor of Loughborough[5]. A plate on the wall of the tower records the rehanging of the bells in 1889.

[illegible]

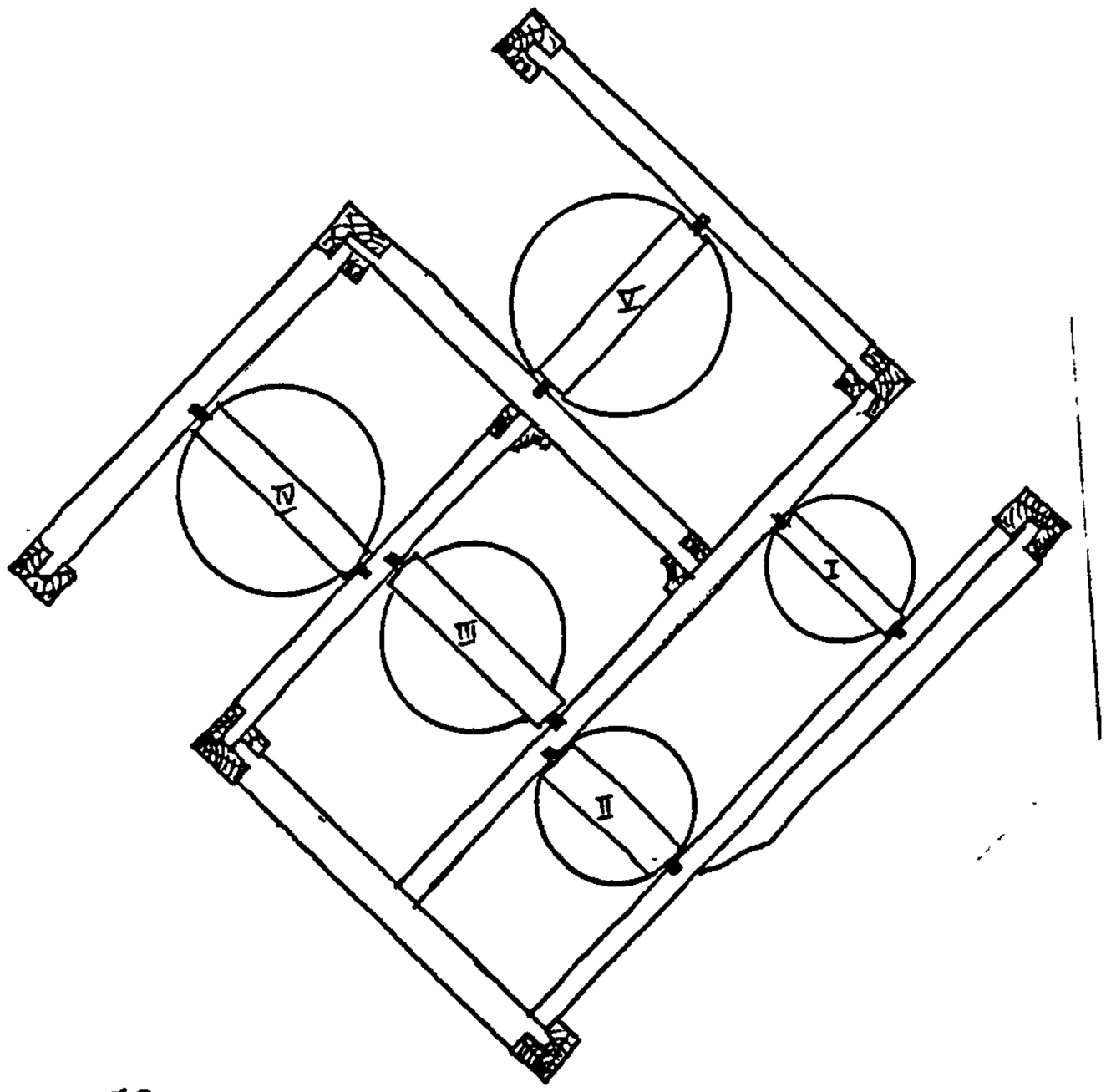
The existing frame for five bells is an adaptation of a four-bell frame which appears to be contemporary with the octagonal belfry. The [illegible] original design of the frame allowed four bells to swing parallel to the north-east, north-west, south-west and south-east walls of the bell-chamber, with the bell-pits surrounding a rectangular central space[6]. When the bells were augmented from four to five the additional bell-pit was formed by removing part of the top cill of one of the frame trusses to extend the central space, and inserting a long frame-head to form two pits parallel to the south-east wall[7]. Sufficient old timber remains to recover most of the details of the original structure.

The foundations of the frame are contemporary with the belfry and are arranged in three levels. Two beams 1 ft (300 mm) square run east-west and are spaced at a distance of 3 ft 4 inches (1020 mm). Four beams of the same cross-section lie, unjointed, on the east-west beams: these four beams are additionally supported in the reveals of the windows, and a further pair of short beams support the ends of the inner pair[8]. Above the level of the set of four beams, which lie north-west to south-east, are four shorter beams at right-angles which are dovetailed to the lower four beams using recessed joints. The beams of the two upper levels form a rigid structure, and the

1. See p. 243, note 3. 2. See p. 420.
3. Churchwardens' accounts seen at Bedingham church, 1979.
4. Parish papers seen at Bedingham church, 1979.
5. *Ibid.*
6. See diagram, p. 246. 7. *Ibid.*
8. See diagram, p. 244.

Diagram B.

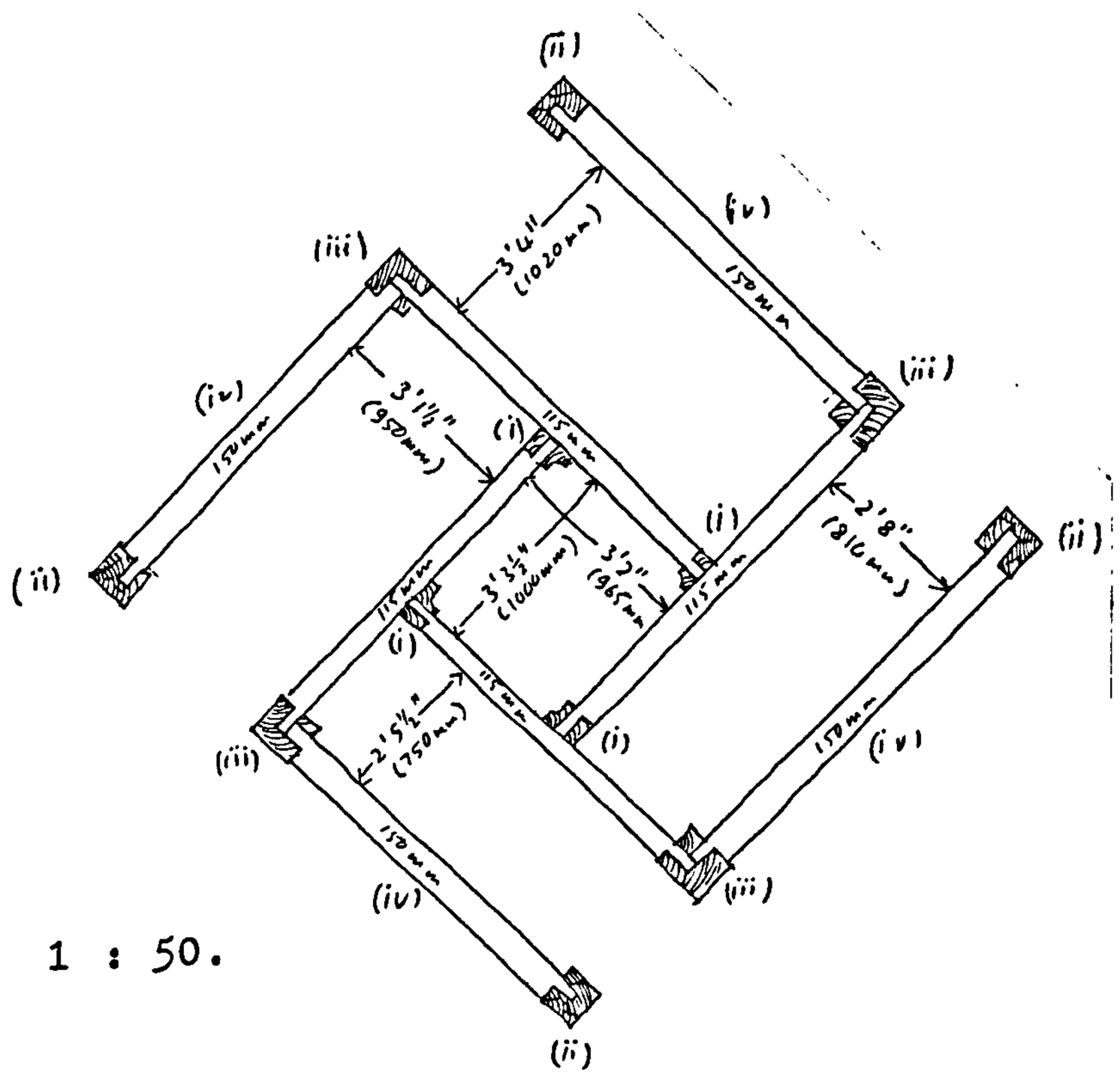
Plan of the bell-frame showing the bells as in April 1979.



Scale; 1 : 50.

Diagram C.

Plan of bell-frame in its original state.



Scale; 1 : 50.

central trap formed is pared to allow a bell of 40 inches (1020 mm) to pass through. The vertical posts, of which only that in the south window is missing, are of four types according to their positions in the bell-frame, as follows:

1. Around the central trap the four posts are jointed at their top-ends to allow one frame-head to pass through and a second frame-head to be mortised in at right-angles. At their feet the posts ride over the highest level of the foundations and rest on the middle level: they are jointed to both levels.
2. The posts in the north, west, south and east windows each support a frame-head by a mortise and tenon joint. Those in the east and west windows are dog-legged over the upper level of foundation beams, while those in the north and south windows have a large splay to account for the asymmetry of the foundations of the frame[1].
3. The corner posts of the bell-pits are mortised to take two frame-heads at right-angles and have tenons at their feet which enter mortises in the foundations of the frame.
4. The king-posts to the outer trusses are mortised into the frame-heads at their top-ends, and their feet are mortised into the foundations of the frame. The posts at the centres of the bell-pits are all recessed to allow for the swing of bells which were slightly wider in diameter than the clearance of the timbers themselves[2]

The bracing of the king-posts and end-posts is by means of angled braces to the foundations of the frame, and much of the original timber survives. The outer trusses each had four braces, two on each side of the king-post, while the inner trusses each had single braces to the vertical posts.

Of the original frame, all four of the outer frame-heads and the inner frame-heads of the north-east and north-west pits survive: they are neatly recessed to allow bells wider than the spacing of unpared timbers to swing, and the recessing of the frame-heads agrees with that of the vertical posts. The frame was designed for a ring of four bells as follows:

North-east pit: 3 ft 4 inches (1020 mm) recessed at 3 ft 7 inches for a bell of 12 cwt.
North-west pit: 3 ft 1 1/2 inches (950 mm) recessed at 3 ft 3 inches (1000 mm) for a bell of 9 cwt.
South-west pit: 2 ft 5 1/2 inches (750 mm) recessed at 2 ft 7 inches (790 mm) for a bell of 4 1/2 cwt.
South-east pit: 2 ft 8 inches (810 mm) recessed at 2 ft 10 1/2 inches for a bell of 6 cwt.

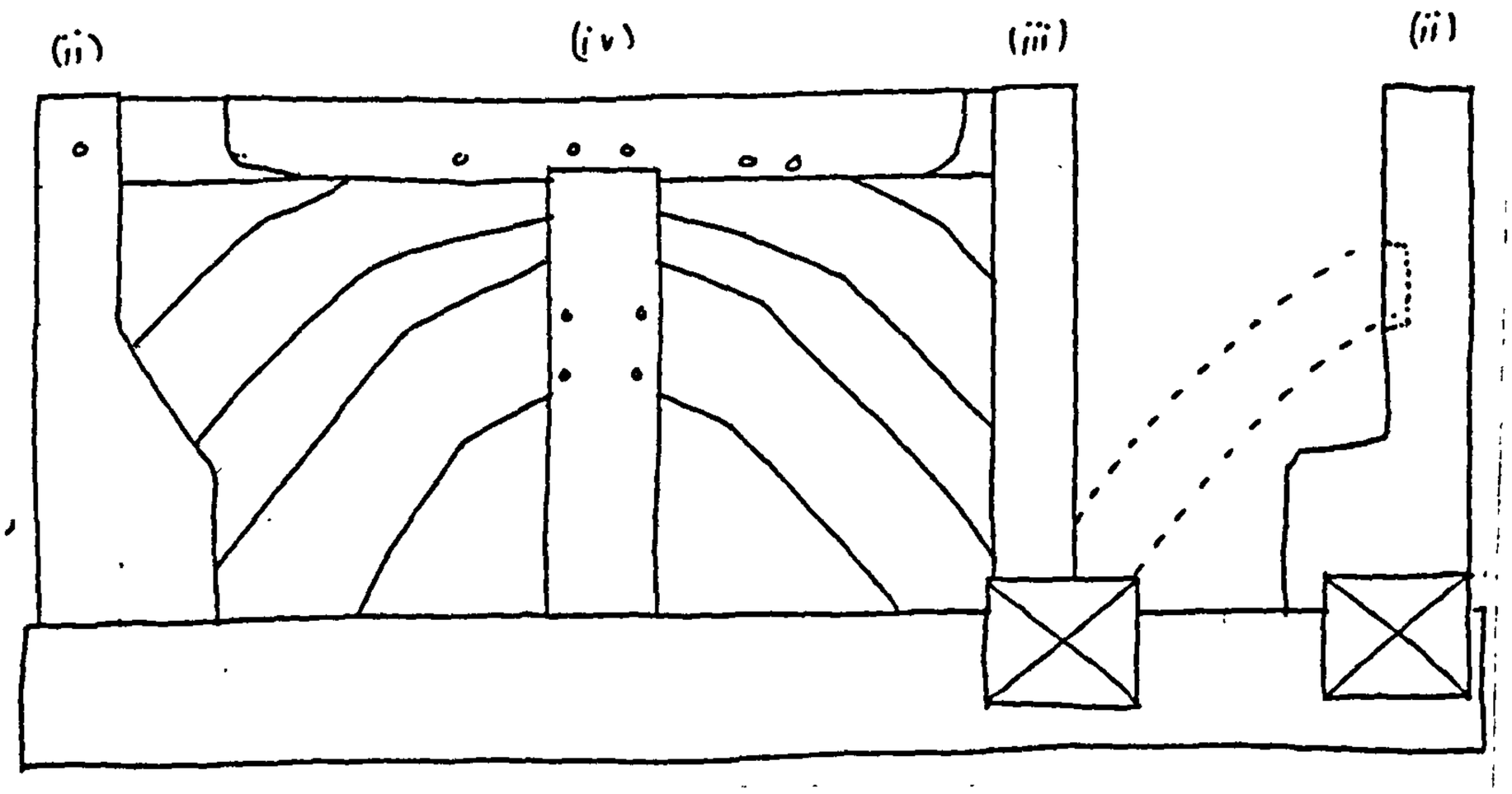
The frame presents an excellent example of a design of c. 1515.

1. See diagram, p. 248.
2. See diagram, p. 246.

BEDINGHAM, St Andrew. 12 April 1979.

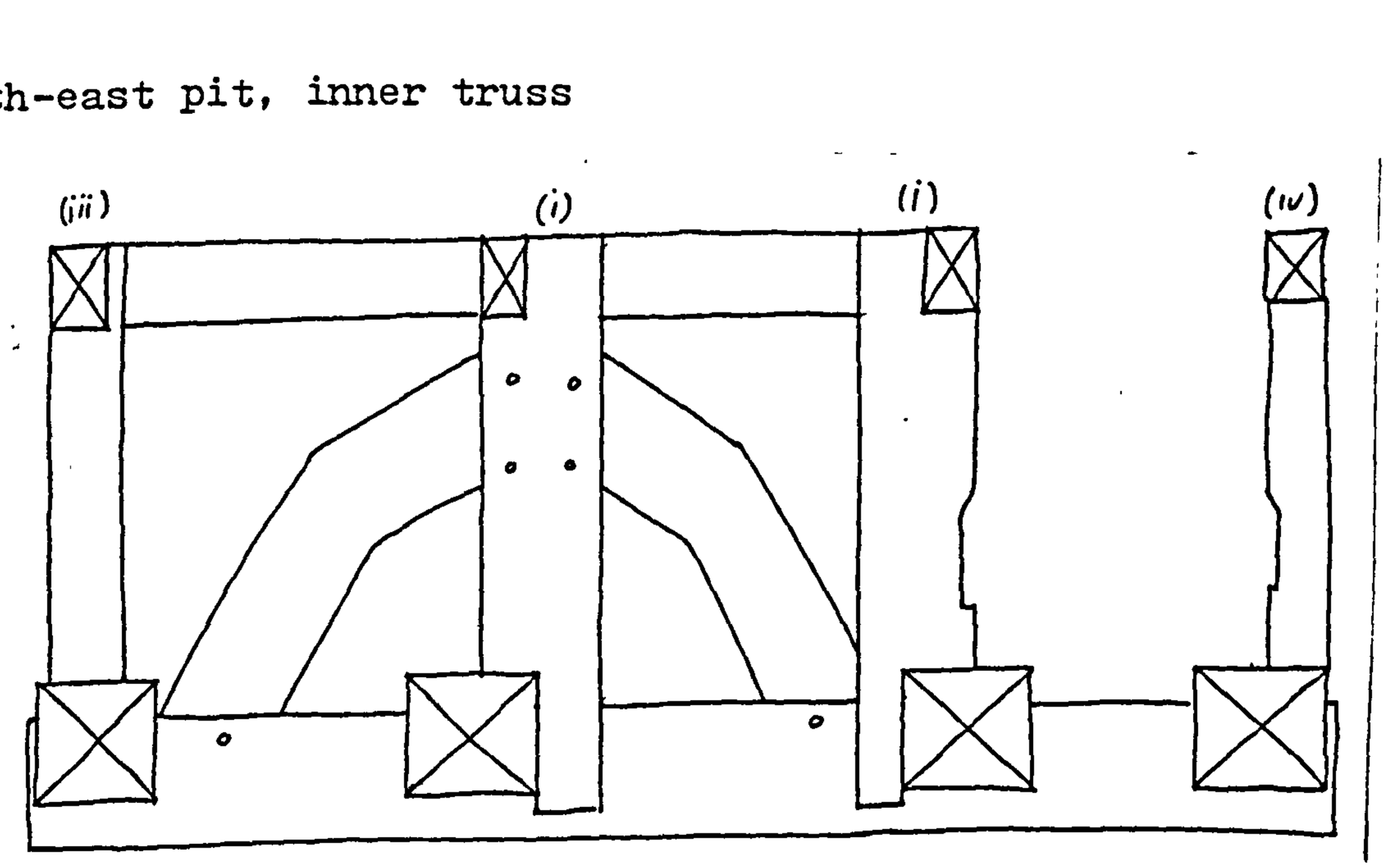
Diagram D.

North-east pit, outer truss.



Scale: 1 : 25.

North-east pit, inner truss



Scale: 1 : 25.

BROOME, St Michael and All Angels. June 1982.

The square west tower is a very fine structure of knapped flint with dressings of limestone, having three external stages, defined by string-courses which correspond to the three floors inside the tower. The diagonal buttresses have flushwork panelling, and flushwork decoration is applied to both the base-course of the tower and the stepped, embattled parapet. The west face of the tower has a richly ornamented doorway beneath a square label, with a large three-light window above; and a small, stooled niche is placed above the apex of the window. The second stage of the tower has three rectangular 'sound-holes' with intricate geometrical tracery as ventilators, but the sound-windows have lost their traceries. Inside the tower brick is used liberally for the details of all arched openings. There was a bequest towards building the tower in 1431[1], and the design of the window traceries in the nave is almost exactly identical to those of the clerestory at St. Peter Mancroft, Norwich, which was also under construction in 1431[2]. It would appear that the tower was built in a single campaign in the 1430's, at about the same time as the nave.

The bells are a derelict ring of five which have not been rung within living memory[3]. The tenor has a diameter of 36 inches (914 mm) weighing approximately 8 1/2 cwt and sounding A.

1. I. B. 1640
2. IOHN BREND MADE ME 1640
3. T. OSBORN. FECIT 1792 JOHN KILLINGTON CHURCHWARDEN
4. IOHN BREND MADE ME 1640
5. THOMAS NEWMAN MADE MEE 1706

The 1552 Inventory records bells of 5 1/2 cwt, 6 1/2 cwt, 8 cwt and 10 cwt; and 1/5 is by John Brend II of Norwich. The bell-frame is designed for the existing bells, and is of similar design to the bell-frame at St. Stephen's church, Norwich, which can be securely dated to 1605-06[4]. There is little doubt that the bell-hanger who made the frame worked closely with the Norwich bell-founders, and it seems that the bells were increased to five and hung in a newly constructed frame in 1640[5]. The bells were last rehung in 1871 by Day of Eye[6].

NOTES.

1. C&C.
2. *Ibid.*
3. No ringer in the locality can remember any ringing taking place at Broome.
4. See p. 384.
5. Bells 3 and 5 would almost certainly be recastings of earlier bells, rather than additions to the ring.
6. Date inscribed on the bearing blocks.

BROOME.

April, 1979.

Tower of c. 1431.

CARLETON ST. PETER, St Peter. April 1980.

The use of building materials suggests that the tower, which is of the same width as the narrow nave, was built in two distinct phases. The lower half of the tower, whose total height is about 60 ft (20 m), is built of flint and brick, and is faced with alternate layers of the two materials: there is no attempt to create a formal pattern by laying alternate courses of flint and brick as in the nave of the church at Wicklewood[1]; and the thickness and consistency of the layers in the Carleton tower is very variable, with brick as the dominant material. The stair projection is faced exclusively with brick, and the buttresses are of flint rubble with decorative brick quoins and limestone weatherings. The north-east and south-east quoins of the tower are entirely of brick, and a few pieces of limestone appear in the walls of the tower and in the quoins of the stair projection. The ground-floor chamber of the tower has an archway of moulded brick to the nave, and the details of the three-light west window, including the mullions and the intersecting 'Y' tracery are of brick. The vise which rises to the level of the first floor chamber is entirely of brick, including the newel and the stair treads, and the head of the vise is very neatly finished with a ribbed vault of brick.

The upper half of the tower is constructed of similar materials to the lower half, but with the very noticeable addition of limestone rubble. The decorative treatment of the buttresses is continued, but the upper parts of the north-east and south-east quoins of the tower are of limestone, and the four two-light windows to the bell-chamber have all their details, including 'Y' tracery, of brick. The parapet of the tower is constructed in flint and brick with the date '1675' in the masonry of the east side; and the bricks used in the parapet are of different size and colour to those used in the rest of the tower.

A number of bequests[2] to the tower confirm the structural evidence for two phases of construction. Bequests in 1503 and 1504 refer to a 'new' steeple, a further bequest in 1507 is noted, and in 1515 money was left to the 'edifying' of the steeple. A bequest of 1517, leaving 13 s. 4 d. to the hallowing of Carleton church, of which sum 1 s. 8 d. had already been paid, suggests that a major programme of building was complete and that the church was fully in use by that date. It seems probable that the tower was complete to the level of the church roof by 1517, and had been given a temporary covering. A second phase of construction is suggested by a bequest in 1525, and it appears that further work was under consideration in 1537, when there was a bequest to the parapet. The date, 1675, on the parapet might suggest either that the bequest of 1537 had not have taken effect, or that defective 16th century work was in need of replacement in the 17th century.

It is suggested the lower half of the tower up to the level of the nave roof was under construction betwee c. 1503 and c. 1517; followed by building the upper half, including the bell-chamber and parapet, betwen c. 1525 and c. 1537: the parapet may possibly have been rebuilt in its present form in 1675.

1. Visited, 1979.
2. All bequests in this section are noted in C&C.

CARLETON ST. PETER

April, 1980.

Tower built in two phases, c. 1503 - c. 1517 and c. 1525 - c. 1537, with a parapet of 1675.

The bells are a ring of four, tenor diameter 34 1/2 inches (875 mm) weighing approximately 7 1/2 cwt and sounding A.

1. EDWARD TOOKE MADE ME 1672

2. ELIAS BREND MADE MEE 1660

3. THOMAS NEWMAN MADE MEE 1707

4. THOMAS NEWMAN OF NORWICH MADE MEE 1731.

The 1552 Inventory records bells of 4 cwt, 5 cwt and 6 cwt.

The bell-frame is in very poor condition, and the hanging of the bells is very precarious: parts of the floor beneath have rotted away, and the remaining parts are deep in birds' nests. No accurate measurements could be taken, and all observations were made from a comparatively safe stance on rickety ladder at the centre of the tower. The bell-frame accomodates four bells and, although provision has been made for an increase to five, there seems never to have been more than four bells in the tower. Although much alteration of a three-bell frame of the same date as the tower has taken place, it is still possible to establish the original design[1].

The second floor of the tower, which is immediately beneath the bell-frame, was constructed of stout oak boards supported by five parallel joists. The two foundation timbers of the bell-frame run north-south, resting partly on off-sets and partly on the boarded floor; and the four cambered tie-beams which form the lower cills of the trusses of the bell-frame are lap-dovetailed to the foundation beams. Apart from the floor this foundation structure is intact, but above this level the frame has been much altered. Referring to the diagrams of the frame[1], the trusses are noted as follows:

> AB remains in its original form except for the east corner post and the two curved braces in the eastern half of the truss.
>
> CD remains only as a top cill with the west corner post turned through a right-angle to present a wide bearing for a newer truss, which is attached to the south side of the older frame-head: the newer truss is secured to the old work using keyed iron bolts. The newer truss has a simple design, consisting of a pair of inclined braces meeting at the centre of the newer frame-head, and is positioned in such a way that it narrows the width of the centre pit of the three-bell frame to a more suitable size for a smaller bell.

1. At this point reference should to be made to the diagrams on p. 254.

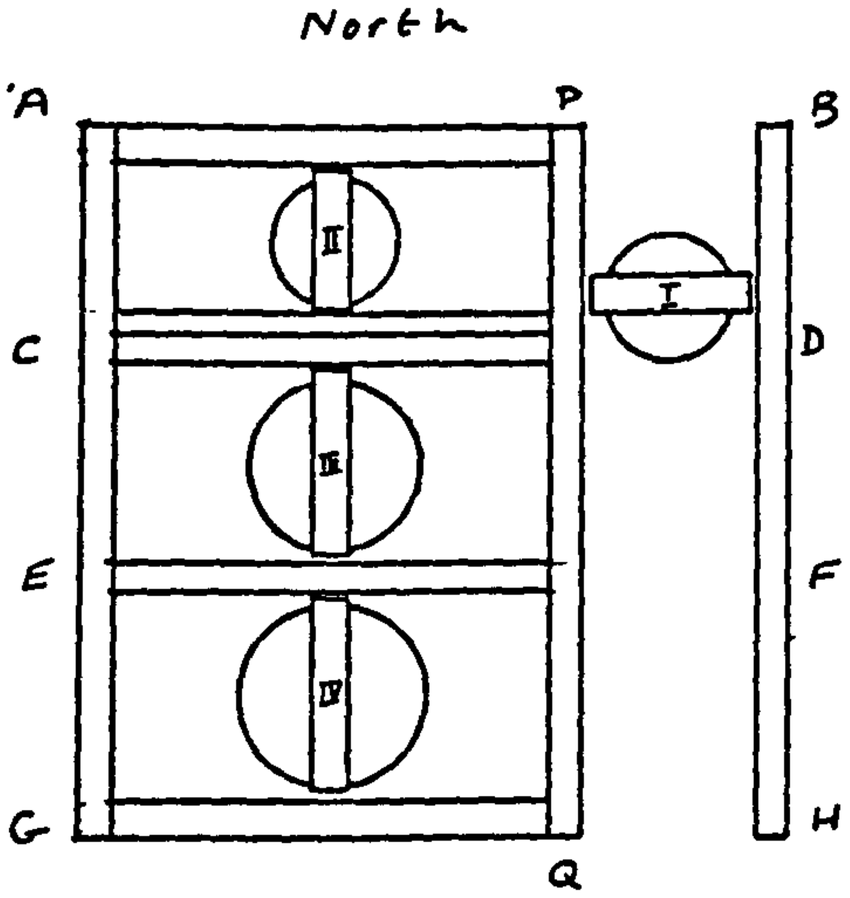
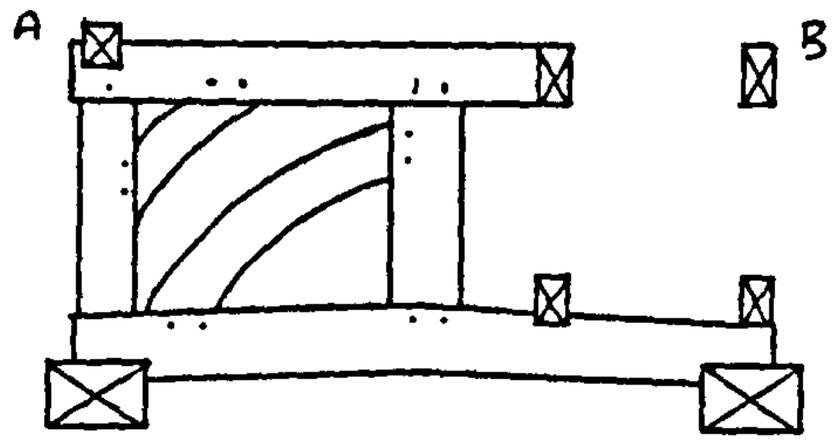


Diagram A.
Plan of frame, 1978.



East

Diagram D.
Frame truss, 1978.

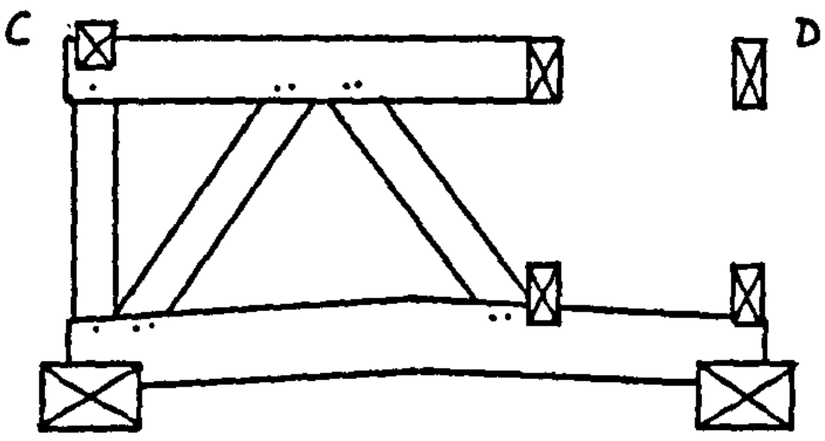


Diagram E.
Frame truss, 1978.

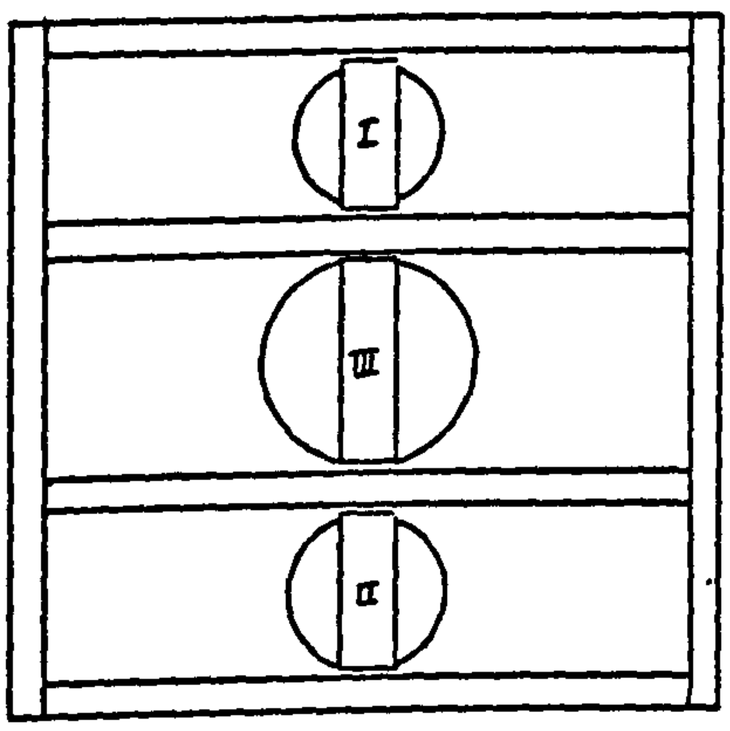


Diagram B.
Original plan of frame.

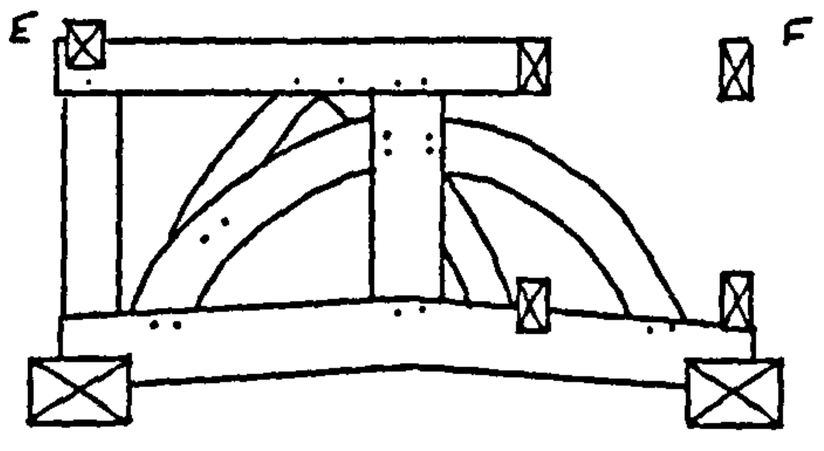


Diagram F.
Frame truss, 1978.

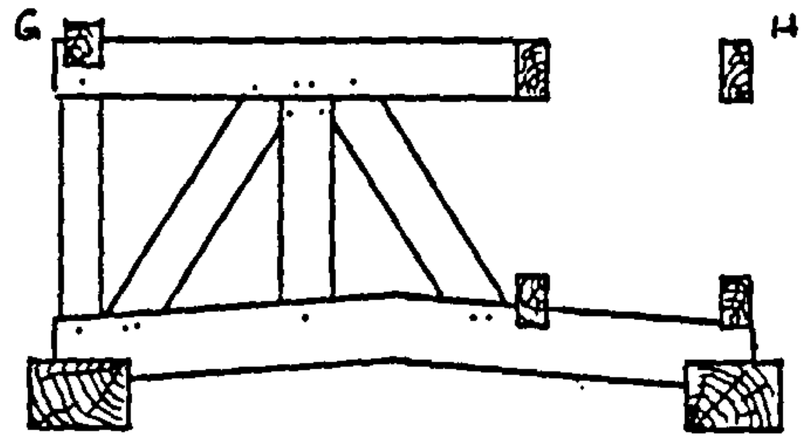


Diagram G.
Frame truss, 1978.

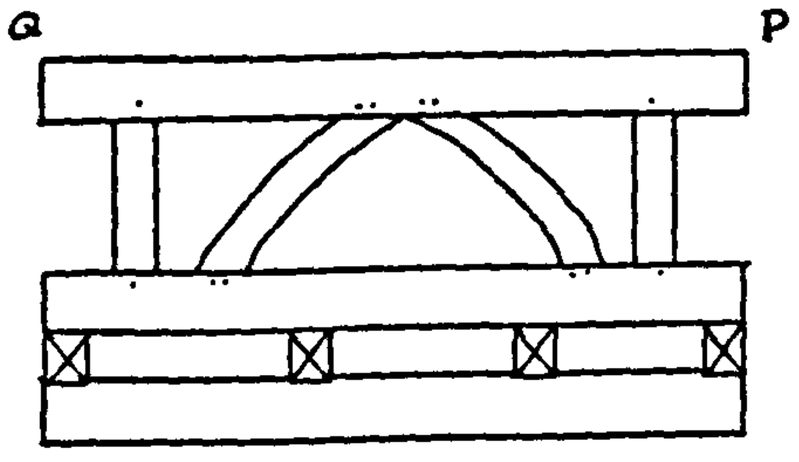


Diagram C.
Frame truss, 1978.

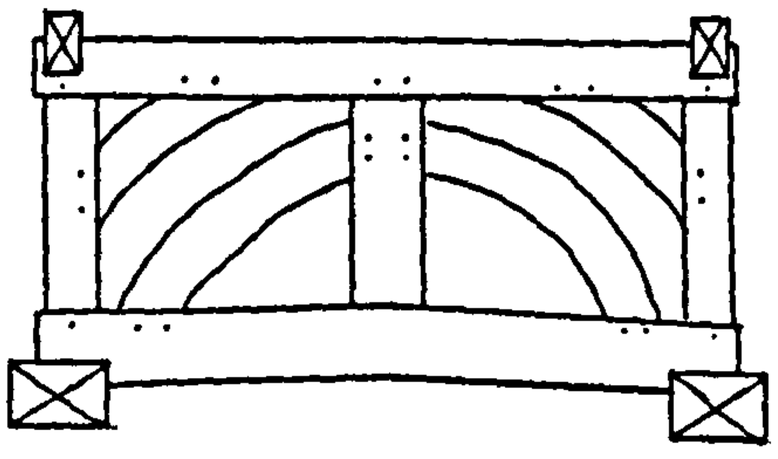


Diagram H.
Frame truss, original form

DIAGRAMS NOT DRAWN TO SCALE.

EF survives complete except for the east end-post and the two short, curved braces between the frame-head and the end-posts. Additional curved braces have been added to the north side of the truss, and these have been designed to take account of the stresses generated by a bell mounted at the centre line of the shortened bell-pit.

GH has disappeared in its original form, and has been replaced by new timber above the level of the lower cill. The new truss has a king-post with straight braces, and corner-posts: in contrast to the usual arrangement observed in older bell-frames, the upper ends of the braces are jointed to both the frame-heads and the king-posts, thus strengthening the right-angle there.

From an analysis of the four trusses it would appear that the original design of the frame was for three bells to swing east-west, and that the trusses had king-posts, long frame-heads and doubled braces. The plan allowed for a ring of three bells as follows:

North pit 34 inches (850 mm) wide for a bell of 5 3/4 cwt,

Centre pit 40 inches wide (1016 mm) wide for a bell of 10 cwt,

South pit 37 inches (925 mm) wide for a bell of 7 3/4 cwt.

The frame has been adapted to take two additional bells (one of which was never installed) by shortening the three original pits, when two similar trusses running north-south were introduced, and the four original trusses were modified in various ways. AB was partly cut away, CD and GH were almost completely replaced, and EF was modified; and a new pit for a pair of bells to swing mouth-to-mouth was thus formed. The rearrangement of the frame was as follows:

East pit 28 inches (700 mm) wide for two bells of 3 1/2 cwt and 4 cwt,

North pit 34 inches (800 mm) wide for a bell of 5 3/4 cwt,

Centre pit 36 inches (850 mm) wide for a bell of 7 cwt,

South pit 37 inches (875 mm) wide for a bell of 8 cwt.

It is suggested that the original three-bell frame dates from c. 1525, when the upper part of the tower was under construction, and that the rearrangement took place when a ring of five bells was under consideration. The alterations to the bell-frame, and the dates on the bells, suggest that the original ring was of three bells with a tenor of 10 cwt, and the increase to four probably took place by recasting the old 10 cwt bell into a pair of smaller bells in 1660, and subsequent recastings of bells in the ring of four took place in 1672, 1707 and 1731.

CHEDGRAVE, All Saints. August, 1979.

The square tower, which is unusually situated at the north-east corner of the church in the angle between the north aisle and the chancel, is constructed mainly of flint with dressings of limestone, but has a liberal mixture of brick in the upper part. The narrow, deeply splayed windows in the base of the tower have semi-circular heads detailed in limestone, and the doorway from the chancel through the south wall of the tower has a semi-circular head. Decoration of the west window arch in the tower, which has been ascribed to the early 11th century[1], suggests that the base of the tower is part of a Saxon, or early Norman church; and the existence of a piscina in the ground-floor chamber suggests that the base of the tower was formerly a small chapel attached to the north side of the chancel. The upper stage of the tower, which has a pyramidal thatched roof and forms the first-floor bell-chamber, has much brick in the walls, as well as pieces of Norman limestone moulding[2]; the sound-windows have four-centred heads fashioned in brick, and there is a horizontal band of brick at the level of the first floor.

Excavations at the west wall of the church have revealed the foundations of a substantial flint structure, probably those of a former tower[3] which had collapsed. It appears that instead of rebuilding the tower an upper stage was added to the small chapel, whose sturdy walls would have been an excellent foundation for the new belfry. The design and construction of the bell-chamber suggest that this work was undertaken in the late 15th century, or early 16th century.

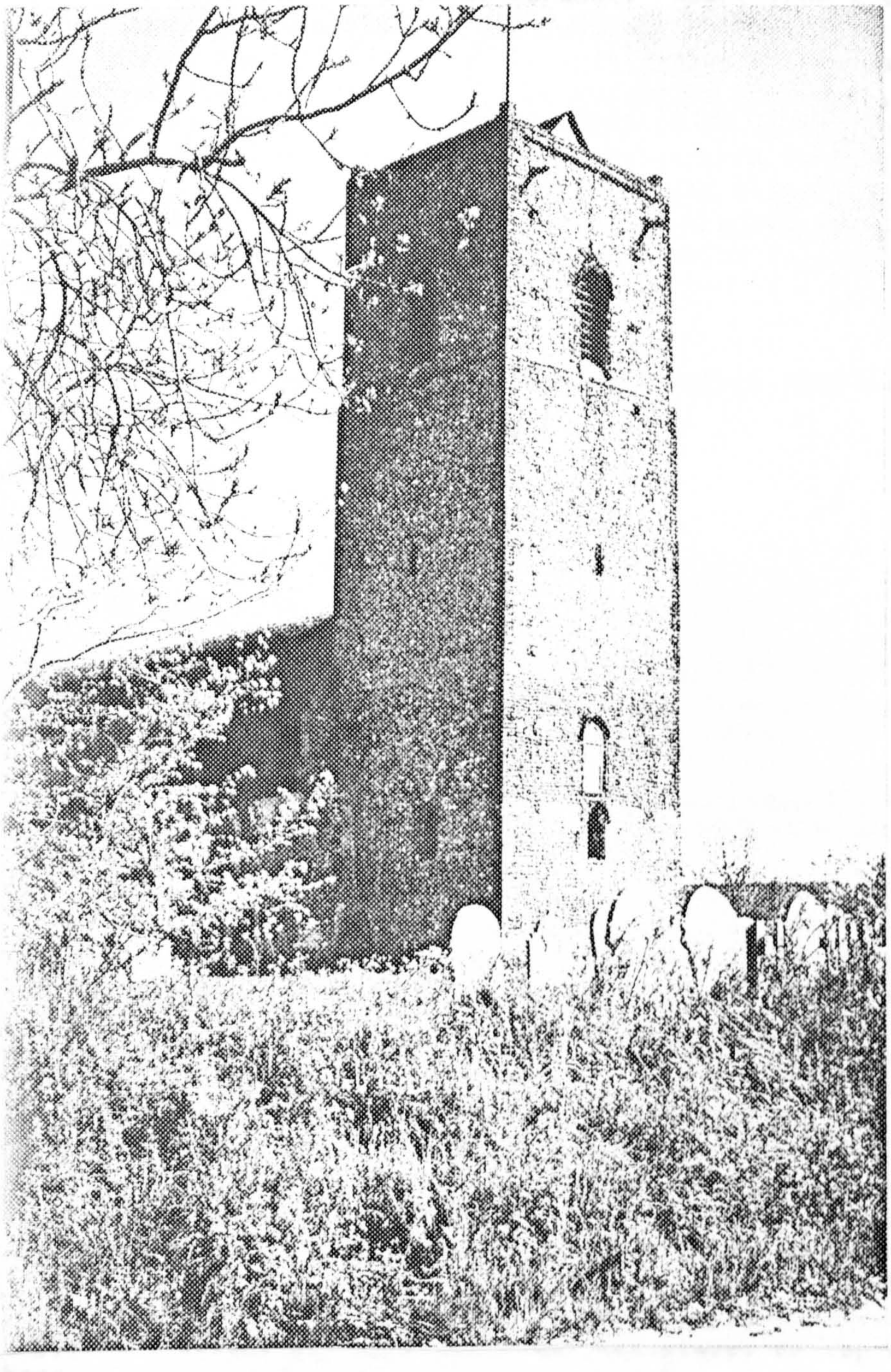
There is a single uninscribed bell, diameter 20 1/2 inches (521 mm) weighing approximately 4 cwt, whose moulding wires and rectangular cannons suggest the work of Samuel Gilpin of Norwich, working between 1679 and 1705[4]. The 1552 Inventory records bells of 1 3/4 cwt and 2 1/4 cwt.

The bell-frame, which is designed for a single bell, is partly constructed from re-used timbers. The two trusses are of the braced king-post type, but there are several later additions to strengthen the structure. Although the basis of the frame may well be pre-Reformation, it has been very much altered in more recent times.

1. P. W. Cave, *All Saints' Church, Chedgrave, a short history* , no date, but post-1951.
2. Visible only from inside the tower.
3. *Ibid.*
4. See p. 447.

CLAXTON

May, 1984.



Tower probably completed in c. 1505.

CLAXTON, St Peter. May, 1978.

The constructional details of the square, unbuttressed west tower suggest that it was built in a single campaign: the material is rough flint mixed with brick, and there is no parapet. Apart from a small section of the south-west quoin which has apparently been repaired in limestone, all structural details are of brick, including decorative external quoins, window openings, and three niches on the north, south and east faces of the tower at a height of about 10 ft (3 m): the four sound-windows have lost their traceries. The large arch to the nave, which has been partially blocked, has brick jambs and a moulded brick soffit. No bequests to the tower fabric have been traced, but the constructional details together with bequests for bells suggest that the tower may have been complete by c. 1505[1].

The bells are a ring of three , tenor diameter 34 inches (865 mm) weighing approximately 8 cwt and sounding A.

1. ANNO DOMINI 1630

2. ANNO DOMINI 1630

3. ANNO DOMINI 1630

Bequests to the bells have been noted above, and the 1552 Inventory records bells of 4 cwt and 5 cwt. All three of the existing bells are of excellent quality, and are by William Brend of Norwich.

The floor beneath the bell-frame has rotted away and, since the only access is by means of a ladder in the centre of the tower, it was not possible to take accurate measurements.

The frame is designed for a ring of three bells to swing east-west, and the foundations, consisting of a pair of stout beams resting on off-sets along the east and west walls and into which four cambered tie-beams are dovetailed, are built into the tower fabric. Three of the trusses have king-posts, long frame-heads, and straight braces[2]; while a fourth truss is of similar form, but with a pair of curved braces. The end-posts of the bell-pits have mortises at about two-thirds of their heights, but there are no answering mortises in the frame-heads. It is likely that the trusses were originally of the form of those in the 16th century frame at Carleton St. Peter[3] and that they have subsequently been altered when the bells were rehung. The most likely date for the alteration would be in 1630, when the three existing bells were provided. At some later date the bells were again rehung, and a second set of frame-heads was placed on top of the older timbers.

1. 1504, John Woodward of Carleton St. Peter, NCC Popy 511
   1507, Robert Ancell of Rockland St. Mary, NCC Ryxe 425.
2. See diagram, p. 259.
3. See diagram, p. 254.

CLAXTON, St Peter.

Diagram A.

Design of three trusses of the bell-frame 1978.

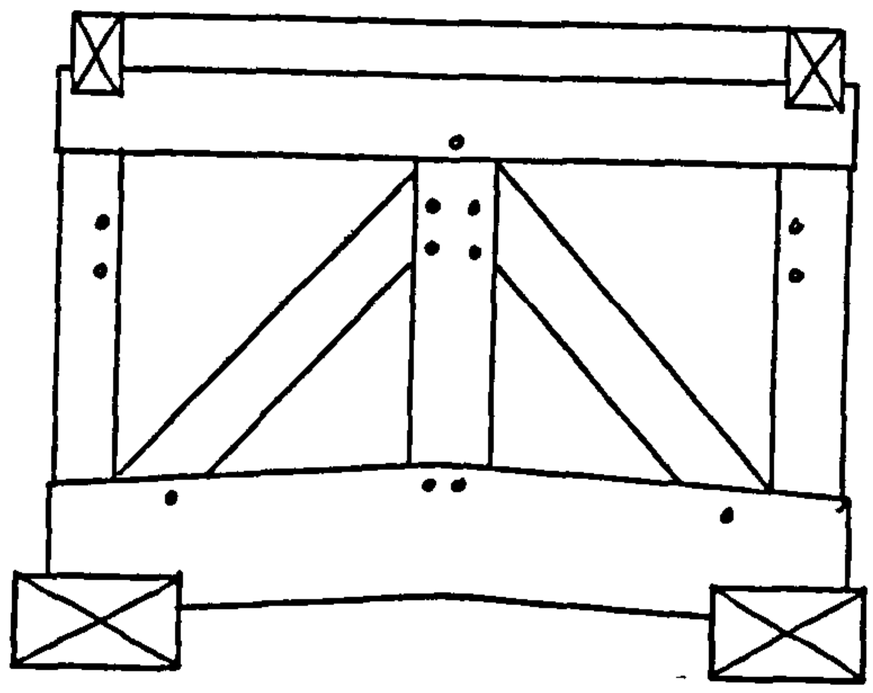


Diagram B.

Diagram of one truss of the bell-frame 1978.

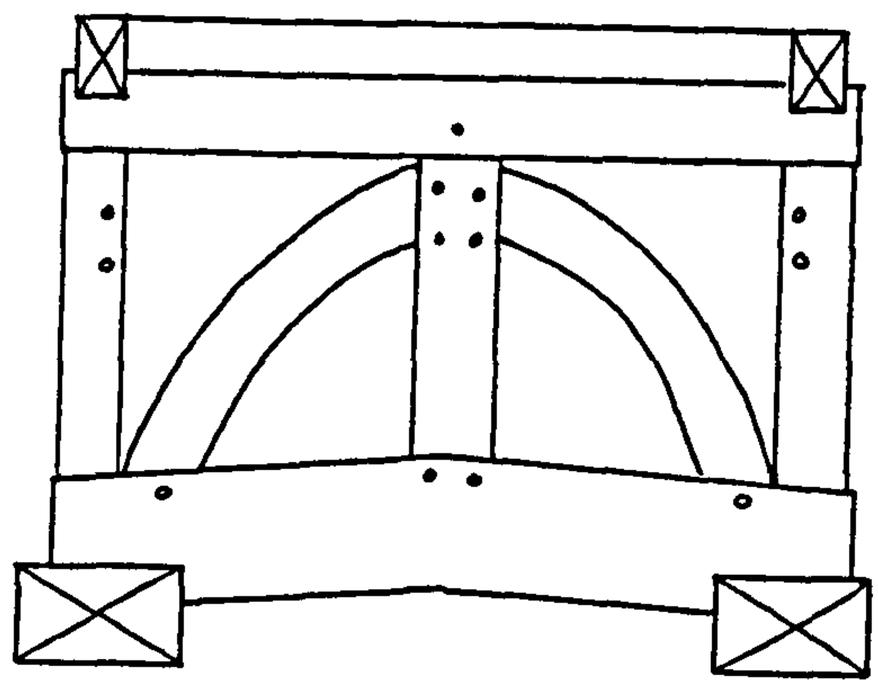
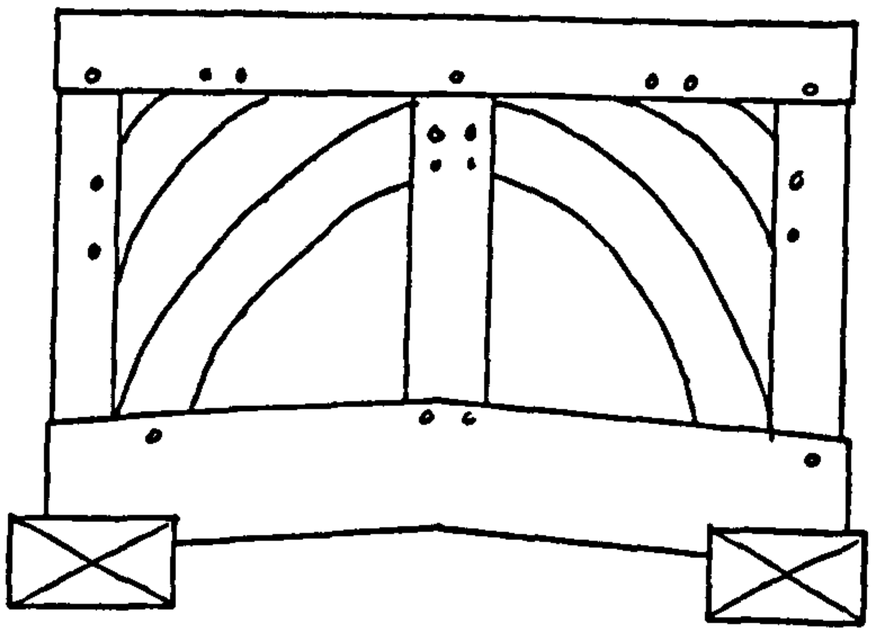


Diagram C.

Suggested design of the bellframe in its original form c. 1500



DIAGRAMS NOT DRAWN TO SCALE.

DITCHINGHAM, St Mary the Virgin. October, 1979.

The square west tower, constructed of knapped flint with dressings of limestone, is one of the finest in Norfolk: brick is used for many of the internal details, and it is particularly prominent in the interior walls of the bell-chamber. The parapet is panelled in flushwork with pinnacles at the corners, and the lowest stage of the tower has a base course which is ornamented with shields and lozenge motifs. The west doorway, which has a moulded arch beneath a square label and carved spandrels, is flanked by a pair of stooled niches; and the tracery of the four-light west window is almost identical to that in the east windows of the aisles of St. Andrew's Hall, Norwich. The three-light windows of the second floor bell-chamber have four-centred arches of similar design to those in the upper stages of the towers at New Buckenham and Saham Toney. There is a tall arch to the nave of the church, but no evidence for a ringing gallery.

The first floor chamber is ventilated by four square 'sound-holes' with pierced limestone fillings, very similar in design to the 'sound-holes' in the tower of St George, Tombland, Norwich; and the heavily-built door from the vise is bowed outwards to avoid intrusion, suggesting that the chamber might once have been used as a strong-room. On the door jamb is the inscription:

Mr Jm Bloy C:W 1789 THIS STEEPLE ANKARD
Wm SPRINGALL BRICKLAYER

There is a tradition that the foundation stone of the tower was laid in 1479 by Bishop Goldwell[1], and that the monks of Norwich Cathedral Priory were present at the ceremony; but no documentary evidence has, so far, been found for this tradition[2]. The similarity of details in the two lower stages of the tower with buildings which were under construction in the 1440's goes against the tradition, and the design of the bell-chamber very closely resembles two structures of the 1490's[3].

1. A typescript history of the parish, which is kept at the Rectory, was compiled by a former Rector, The Reverend W. Scudamore, in the 1950's, and has not been published. A recent guide to the church (R. Tricker, undated, but c. 1981) repeats the tradition, and ascribes the design of the tower to James Woderove, a Norwich freemason, who was dead by 1459 (Blomefield IV, 472).
2. The register of Bishop Goldwell, and the rolls of the various departments of the Priory, have been searched for a ten-year period on either side of the given date with no success. The documents are at NRO.
3. St Andrew's Hall, formerly the nave of the church of the Dominican Friary, was under construction in the 1440's (see H. Harrod, *The Castles and Convents of Norfolk*, Norwich, 1857.); and the tower of St George, Tombland was the subject of a bequest in 1445 (C&C). Bequests to the church at New Buckenham suggest that the upper stage of the tower was under construction between 1495 and 1505 (C&C), and the tower at Saham Toney was called 'new' in 1492 while a bequest for tower work and bells suggests that it was nearing completion in 1497 (C&C).

The bells are a ring of six, tenor diameter 40 inches (1016 mm) weighing 12 cwt 3 qr 12 lb and sounding F sharp[1].

1. 1820 T MEARS OF LONDON FECIT
   J J BEDINGFIELD ESQR WILLIAM STAMFORD CHURCHWARDENS

2. 1820 T MEARS OF LONDON FECIT
   J J BEDINGFIELD ESQR WILLIAM STAMFORD CHURCHWARDENS

3. T. L. MADE ME 1739

4. Eternis Annis Resonet Campana Johannis

5. + Sum Rosa Pulsata Mundi Katerina Vocata

6. OMNIS SOMVS LAVDET DOMINVM 1620
   T A P S B R C (on crown)
   (Norwich foundry marks on the crown)

The 1552 Inventory records bells of 5 cwt, 8 cwt, 12 cwt and 15 cwt; and 4 and 5 are London-cast bells of about 1420[2], probably by John Langhorne. 3 is by Thomas Lester of Whitechapel, and 6 is by William Brend of Norwich. The churchwardens accounts for 1739 show that in that year the bells were increased from five to six by taking away the former treble and tenor, and replacing them by three bells. The two trebles of the six were again replaced in 1820, and the bells were rehung by Thomas Hurry of Norwich who, presumably, acted as an agent for the Whitechapel Foundry[3].

The bells were rehung in a new metal frame, by Alfred Bowell of Ipswich, in 1931[4].

1. Details from a framed notice in the tower.
2. See p. 441.
3. NRO., PD 301/46.
4. See note 1.

HARDLEY, St Margaret. February, 1978.

The round west tower is situated to the south of the centre line of the nave and chancel. Examination of the west and south walls of the church shows that the tower was formerly symmetrically placed, and that the church has been extended by pulling down the former north wall and widening the nave on that side: the traceries of the windows suggest that the alteration of the nave was contemporary with the building of a new chancel in 1456-62[1]. The ground-floor chamber of the tower, which has a semi-circular headed arch to the nave, appears to be Norman work; but above a height of about 18 ft (6 m) the building material of the tower changes to include a proportion of brick rubble, and the diameter increases. The openings at the level of the first-floor and second-floor chambers are much patched externally, but the internal details appear to be of the original brick. The top 25 ft (8 m) of the tower was probably under construction in c. 1501 - 5[2], and, if a bequest of 1504[3] took-effect, there was formerly a spire. The design of the lancet windows in the upper part of the tower is similar to that of windows in the roughly contemporary work at the neighbouring church of Heckingham[4].

The bells are a derelict ring of three, tenor diameter 38 1/2 inches (978 mm), weighing approximately 10 cwt and sounding G.

1. ANNO DOMINI 1634

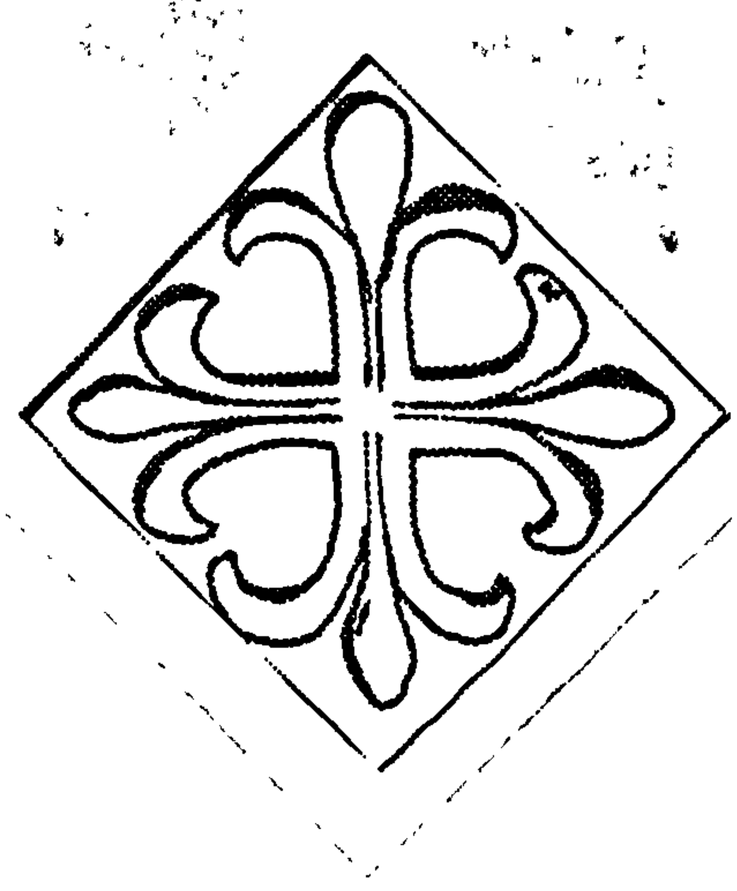
2. ANNO DOMINI 1607

3. + Munere Baptiste Benedictus Sit Chorus Iste

The 1552 Inventory records bells of 2 cwt, 3 cwt and 4 cwt, and 3 is probably a bell of c. 1540 by Thomas Lawrence of Norwich[5]. 1 and 2 are by William Brend of Norwich.

The bell-frame is designed for the existing bells, and has trusses similar to those in 17th and 18th century frames[6]: the foundation structure also suggests a post-Reformation date[7].

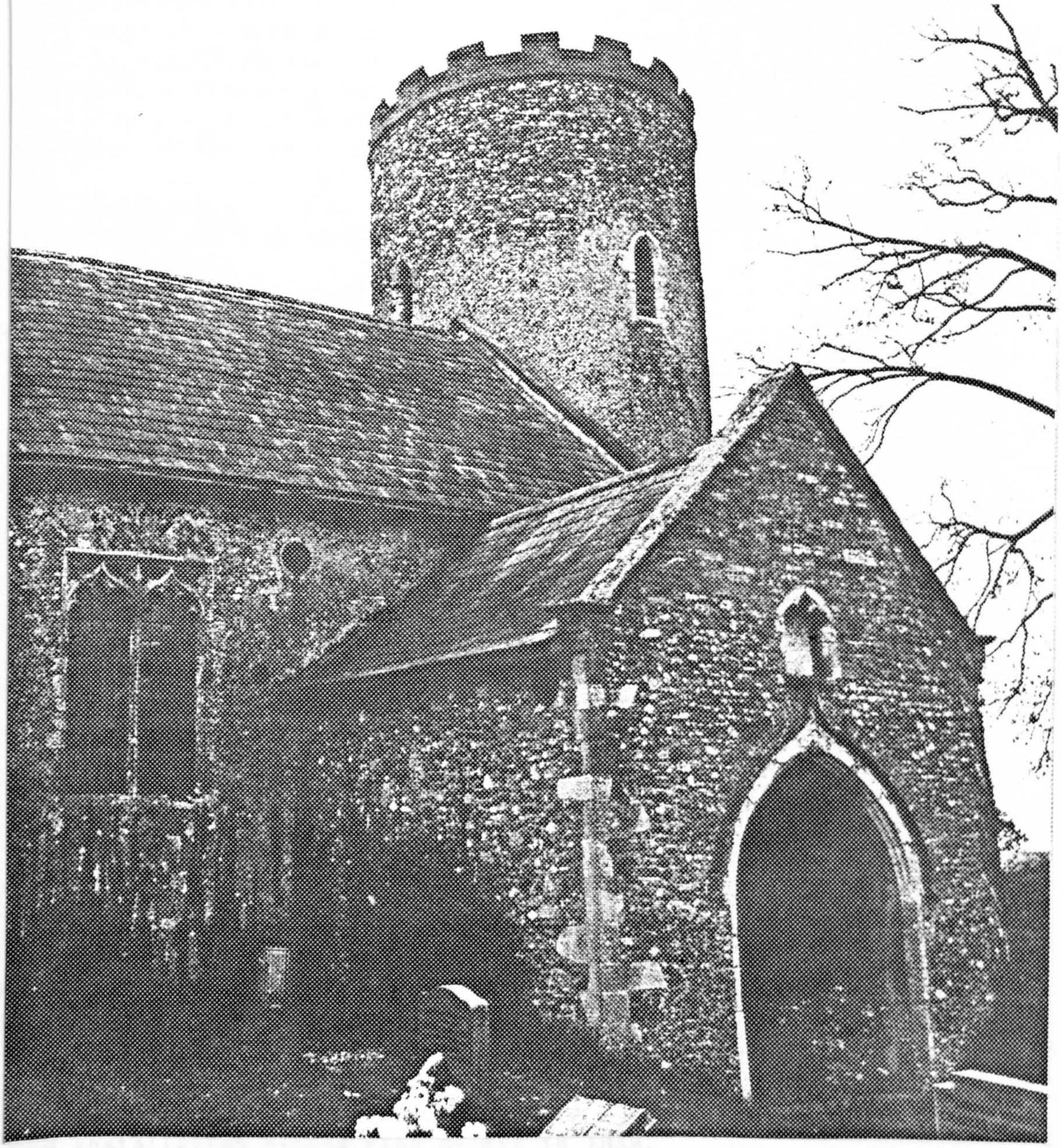
1. C&C. 2. C&C. 3. C&C. 4. See pp. 59, 60.
5. See pp 407 and 433. See also CBEx., where the cross illustrated appears as plate XII (9) and is mentioned on pp. 32 *et seq.* as being in the hands of various London founders from John Walgrave (c. 1408) through to Thomas Bullisdon (c. 1510). Thomas Lawrence, who is known to have used lettering and marks from Bullisdon's foundry (CBEx., p. 44) and is said to have used a great variety of lettering acquired from other foundries, is the most likely founder to have imported the cross to Norwich.



6. See pp. 92 and 195. 7. See p. 386

HARDLEY

March, 1983.



Round tower, with upper stage probably of c. 1501 - c. 1505.

HEDENHAM, St Mary the Virgin or St Peter. July 1979.

The square west tower, which is unusual in that it tapers externally throughout its height, is constructed of flint rubble and has a knapped flint facing with limestone dressings; there is also a stepped, embattled parapet of flushwork. There is limited use of brick inside the tower for the construction of the window openings, and the two-light west window has external brick voussoirs; the sound-windows have lost their traceries. The date of the tower is suggested by a will of 1417, which leaves a sum of money to the fabric fund on condition that the parishioners make a new roof to the church: the will, which mentions an advance of money towards the tower, also requires that the churchwardens place a chest with three locks, to be provided by the testator, in the safety of the tower[1].

The bells are a ring of six, tenor diameter 33 1/2 inches (851 mm) weighing 6 cwt 3 qr 26 lbs and sounding C[2].

1. THOMAS MEARS FOUNDER LONDON 1838
2. THOMAS MEARS FOUNDER LONDON 1838
3. THOMAS MEARS FOUNDER LONDON 1838
4. THOMAS MEARS FOUNDER LONDON 1838
5. THOMAS MEARS FOUNDER LONDON 1838
6. THOMAS MEARS FOUNDER LONDON 1838
   THE SIX FEOFFEES OF THE TOWN LAND BELONGING TO THE PARISH OF HEDENHAM
   THE HONBLE. GEORGE IVES IRBY. THE HONBLE WILLIAM DRAKE IRBY. FREDERICK WILLIAM IRBY ESQRE.
   JOHN LONGUEVILLE BEDINGFELD ESQRE. DITCHINGHAM HALL, THE REVD. JAMES BEDINGFELD RECTOR OF BEDINGFIELD
   THE REVD JOHN PETER CHAMBERS RECTOR OF HEDENHAM - CHURCHWARDEN
   JOHN FELTOM.

The 1552 Inventory records bells of 2 cwt, 3 cwt, 4 cwt and 5 cwt.

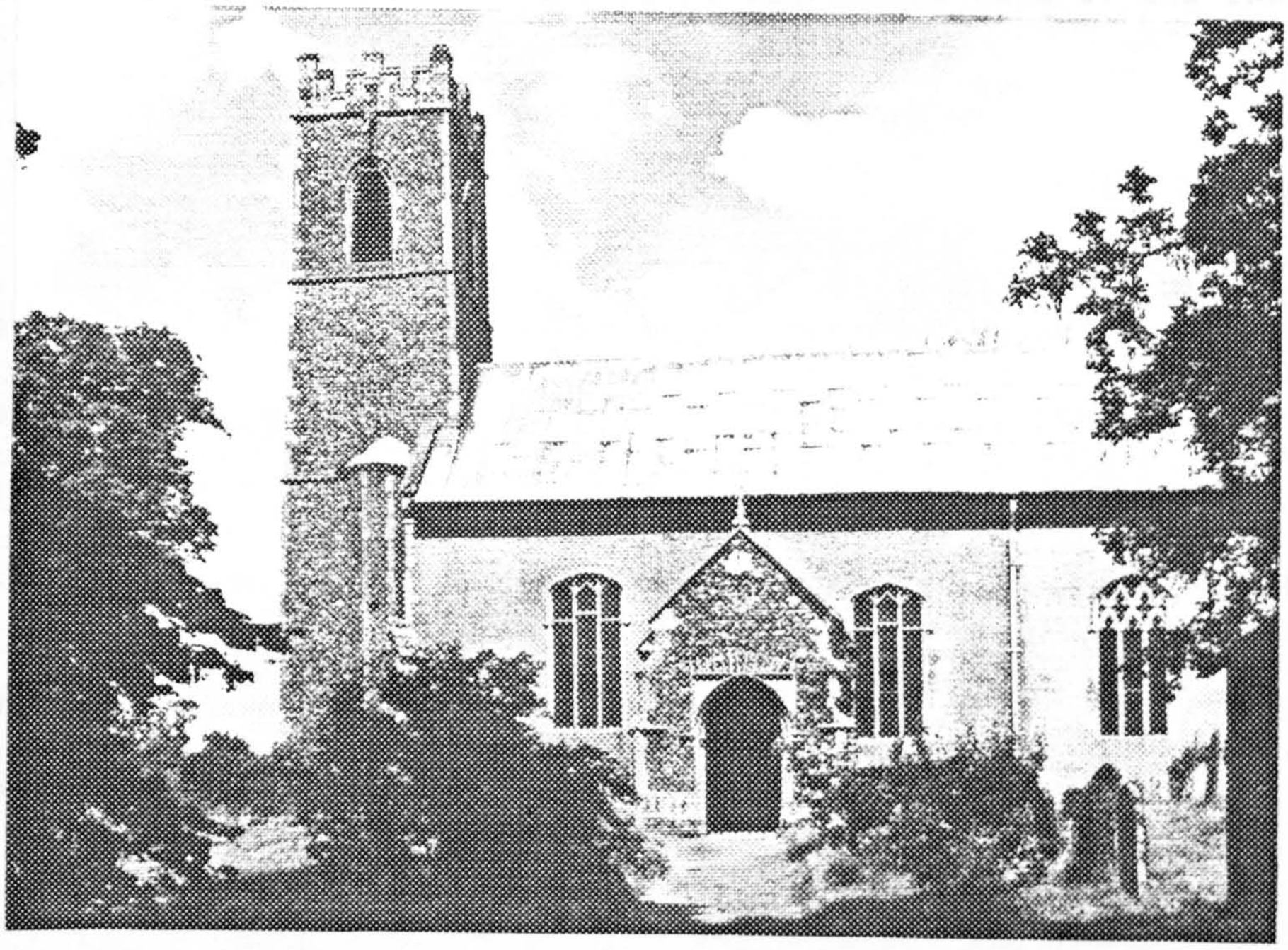
There were only four bells until 1838[3], and a bell at Kirby Bedon has an inscription showing that it had come from Hedenham[4]: it is very probable that the old bells were exchanged, rather than recast.

The bell-frame is arranged in two tiers and is designed for the existing ring of six bells: five bells hang in the lower frame, and a single bell (4) hangs above. The frame almost certainly dates from the installation of the ring of six in 1838.

1. 1417, Thomas Ilkethall of Horsley in the Diocese of Winchester, NCC Hyrning 26.
2. Details from a framed card in the tower.
3. CBN., p. 142.
4. CBN., p. 153.

HEDENHAM

June, 1979.



Tower, probably of c. 1417.

HELLINGTON, St John Baptist. July, 1979.

The round tower is at the west end of a church which, having a very fine south doorway and a less distinguished north doorway both with semi-circular arched heads, appears to be of Norman origin. The coursed flintwork in the lower stage of the tower is similar to that in the nave, and it would appear that the lowest stage of the tower, to a height of about 30 ft (10 m), is Norman. The nave of the church was subtantially altered by the opening of windows which have early 14th century tracery[1], and the upper stage of the tower, which is of different construction to the lower part and has four large sound-windows of two lights, is probably of the same date.

There is a single bell, diameter 32 inches (813 mm) weighing approximately 6 1/2 cwt, it is uninscribed, and the moulding wires suggest a pre-Reformation date: there is a marked similarity in design to bells cast by William of Norwich who was working during the second half of the 14th century[2]. The 1552 Inventory records bells of 2 1/2 cwt and 3 1/2 cwt; and a bell, supposed to weigh 9 cwt, was sold by Faculty in 1808[3].

The bell-frame, which is a very slight structure designed for a pair of bells, has a number of features which suggest an early date, including two levels of foundation beams, and trusses consisting of braced king-posts with long frame-heads. The date of the frame foundations, which rest on a boarded floor, cannot be related to that of the tower.

KIRSTEAD, St Margaret. May, 1978.

The church was thoroughly restored and a new tower built in 1864[4].

There is a single bell, diameter 27 inches (686 mm) weighing approximately 3 cwt.

1. G. MEARS & CO. FOUNDERS, LONDON 1864

The 1552 Inventory records bells of 100 lbs and 50 lbs; and L'Estrange records a pair of bells, hanging in a gable bell-cote, which he ascribes respectively to William Brend and to John Brend II,[5] as follows:

1. 1587 W B

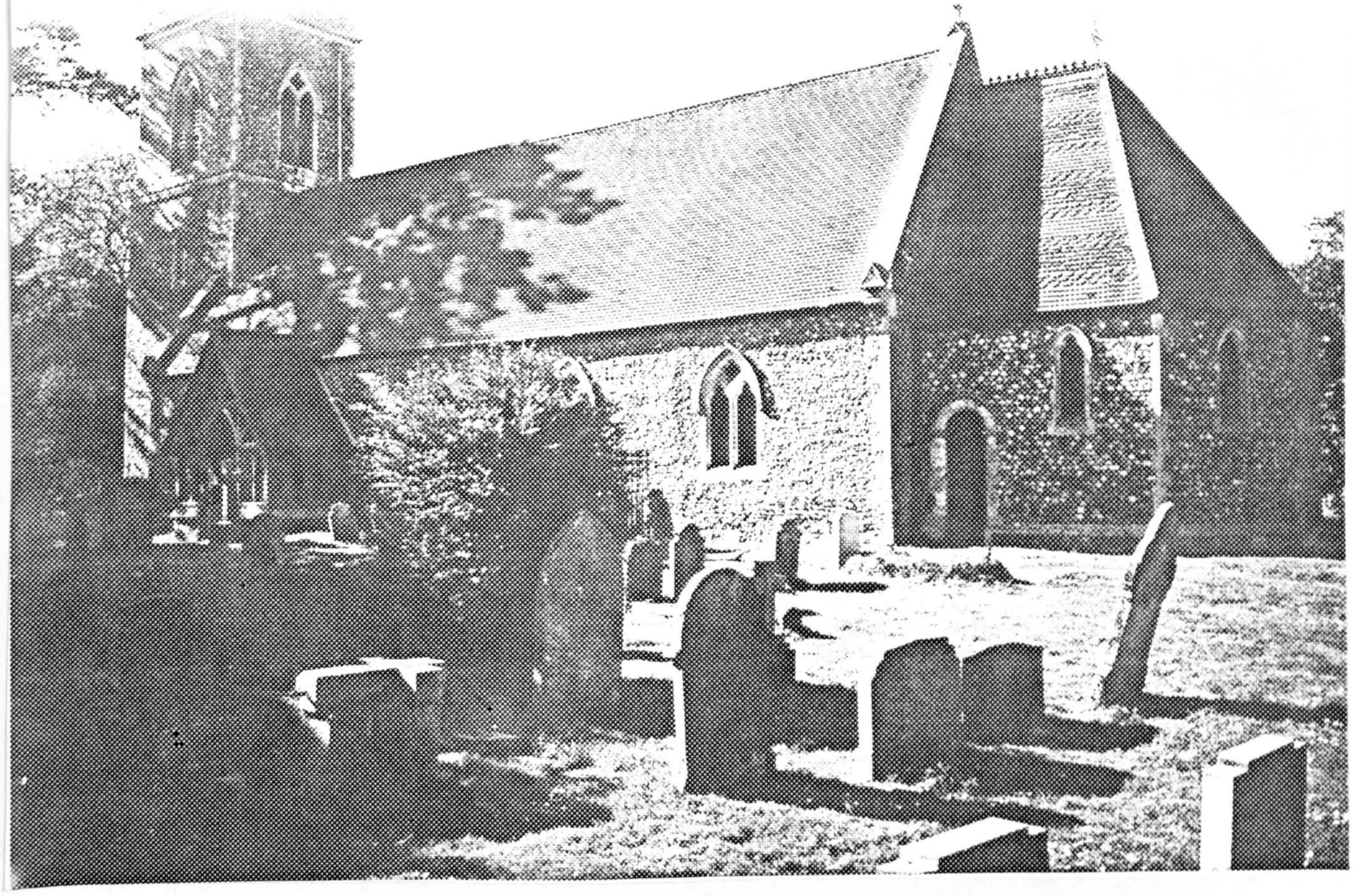
2. E.H. A.L. Anno Domini 1635 I B.

The bell-frame appears to date from the building of the tower in 1864.

1. The traceries have parallels at Norton Subcourse, which can be dated to the first quarter of the 14th century (C&C).
2. See p. 426.
3. NRO., NDR., FCB. 8, fo. 206.
4. Pevsner, p. 238. 5. CBN., p. 153.

KIRSTEAD

May, 1984.



Tower of 1864.

LANGLEY, St Michael and All Angels. February 1978.

The square west tower is a uniform construction of flint with limestone dressings: there is no brickwork to be seen in the structure of the tower proper, but the interior of the parapet shows a great deal of brickwork. The west window is of three lights and has Perpendicular tracery, in contrast to the cusped 'Y' tracery of the two-light sound-windows. The east face of the tower shows the weathering of a high-pitched roof, and a small doorway, which would have given access to the space between a former roof and the ceiling of the nave. The existing roof, of lower pitch, is arch-braced and appears to be no later than the 15th century.

The north doorway to the church has a pointed arch with handsome dog-tooth decoration, and the simply-chamfered tower arch rises from polygonal abaci supported by semi-circular responds and capitals. It would appear that the tower and nave are basically 13th-century or early-14th-century, and that a bequest of 1528[1] may relate to the insertion of a new window in the tower at the level of the ground floor. The addition of the brick parapet, which is faced with limestone and has the arms of Berney on the south face, probably dates from after the suppression of Langley Abbey, which was granted to the family in 1546[2].

The bells are a ring of five, tenor diameter 35 inches (890 mm) weighing approximately 8 cwt and sounding A, which have not been rung in full circles since the 1930's[3].

1. C & G MEARS FOUNDERS LONDON 1852
2. C & G MEARS FOUNDERS LONDON 1852
3. C & G MEARS FOUNDERS LONDON 1852
4. SAMVEL GILPIN FECIT 1703
5. R B I G R C 1606 W

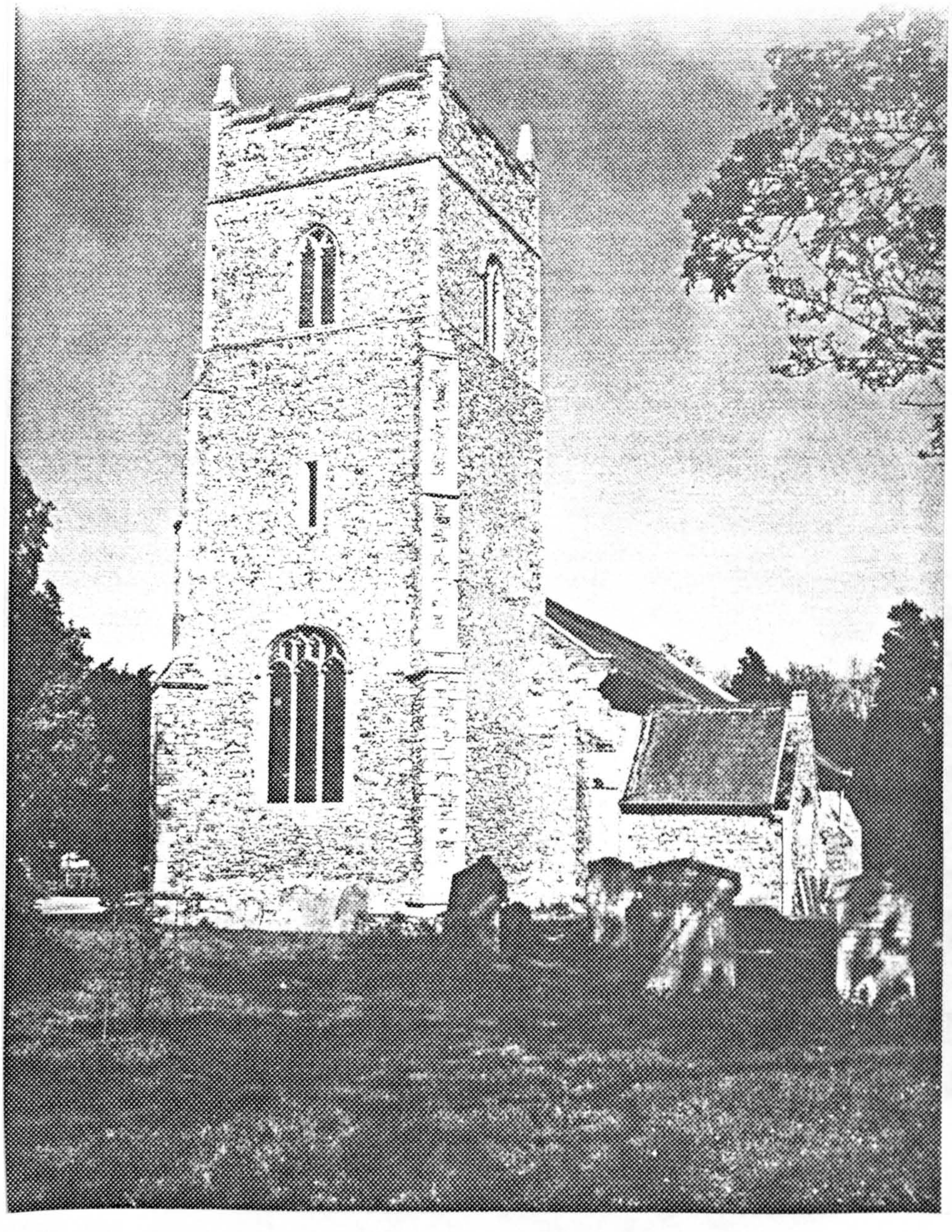
The 1552 Inventory records bells of 3 cwt, 4 cwt and 5 cwt; and of the existing bells 5 is by William Brend of Norwich, and 4 is the only remaining bell which bears the name of Samuel Gilpin, bell-founder of Norwich[4].

The bell-frame is designed for the existing ring of five bells, and has every appearance of dating from the 1852 restoration of the bells.

1. C&C.
2. Blomefield XI, 126, gives the arms of Berney as a cross engrailed ermine, which corresponds to the arms on Langley tower, where they are differenced by a crescent. The grant is recorded in Taylor, *Index Monasticus*, London, 1821, p. 31.
3. Information from Mr. H. W. Barrett of Loddon, who rang here.
4. Toft Monks 1/3 also bears his name (see p. 72), but it is a *fac-simile* reproduction of 1963.

LANGLEY

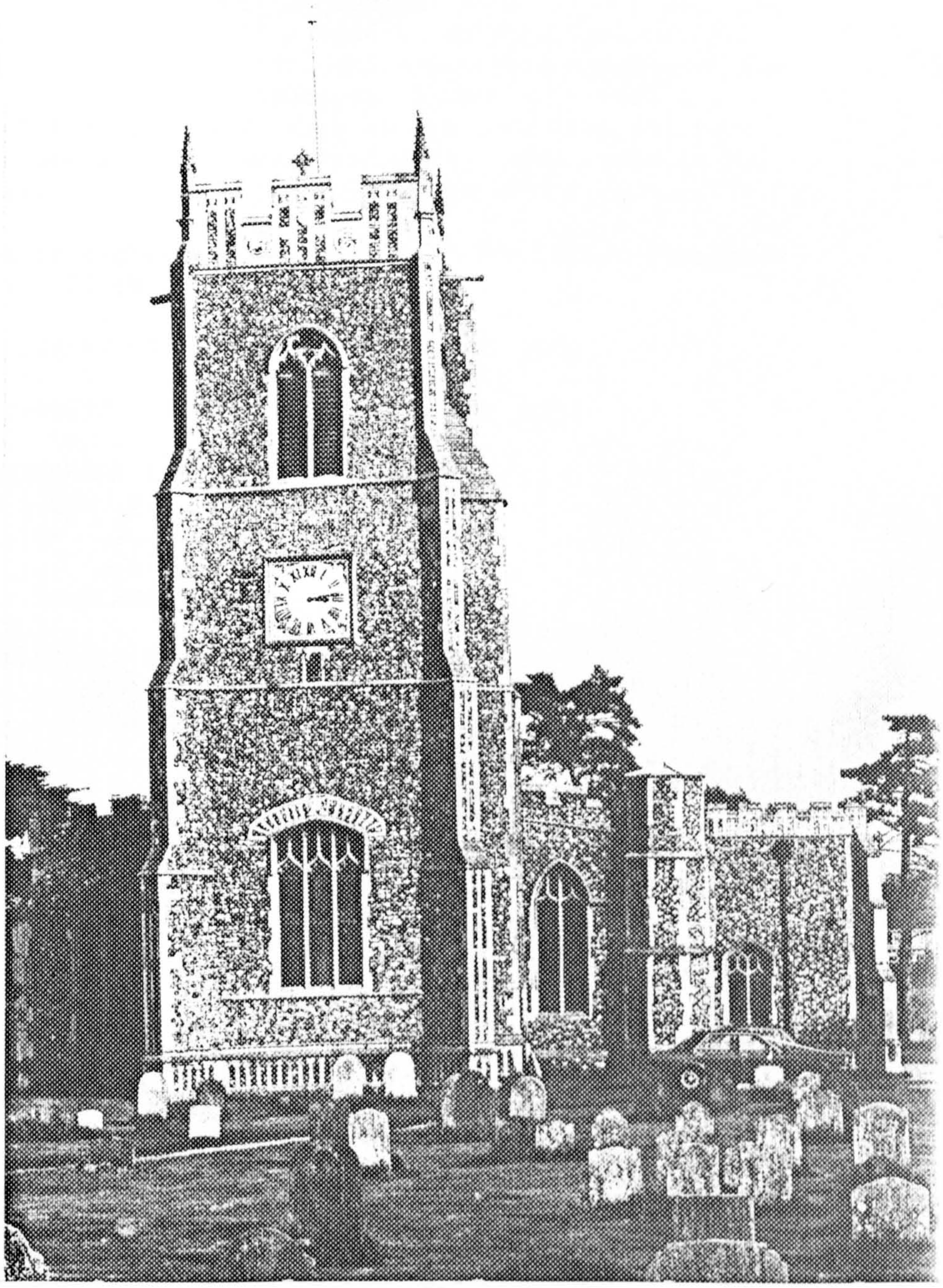
May, 1984.



Tower with west window probably inserted in c. 1528, and a later parapet.

LODDON

September, 1980.



Tower of c. 1464 - c. 1487, with parapet of c. 1501 - c. 1504.

LODDON, The Holy Trinity. November 1978.

The square west tower, which is a very fine structure of three stages, is faced with knapped flint and has external dressings of limestone; and there is considerable structural use of brick, visible inside the tower. There is a deep base-course of flushwork panelling, but no west doorway, and the three-light west window has elaborately ornamented voussoirs of limestone with a shield motif at the head of the two-centred, segmental arch. The four sound-windows are of two

lights with simple reticulation units in the heads of their traceries. The diagonal buttresses of the tower are panelled in flint and limestone, and the parapet is richly ornamented with letters and other devices in flushwork. The church at Loddon is said to have been built by Sir James Hobart, who died in 1492[1], and whose name appears on the south porch. Work on the tower is mentioned in wills of 1464 and 1487, suggesting that the tower was built at the same time as the church[2], and further bequests in the period 1501 - 1504 refer to the making of the parapet.

The bells are a ring of eight, tenor diameter 39 3/4 inches (1010 mm) weighing approximately 11 cwt and sounding G.

1. C & G MEARS FOUNDERS LONDON WILLIAM HOOD M.D. 1853

2. C & G MEARS FOUNDERS LONDON WILLIAM HOOD M.D. 1853

3. RECAST BY JOHN WARNER & SONS LONDON 1889
   HUNG BY G DAY & SON EYE
   C B MAYHEW VICAR
   J C COPEMAN)
   A W SALTER) CHURCHWARDENS

4. RECAST BY JOHN WARNER & SONS LONDON 1889

5. Anthony Hobart Esquyre T. D. Churchwarden
   Anno Domini 1616

6. IOHN DARBIE MADE ME 1669 N B I N C W

7. RECAST 1922

8. Anno Domini 1618

There were bequests for a new bell in 1461[4], and the 1552 Inventory records bells of 3 1/2 cwt, 4 1/2 cwt, 6 cwt and 8 cwt. 5 and 8 of the existing ring are by William Brend of Norwich, and 7 is by the Whitechapel Bell-foundry. The predecessors of 3 and 4 were inscribed[3]:

THOS LESTER & T PACK FECIT 1752,

and the inscription on the old 7 was:

THOMAS MEARS & SON OF LONDON FECIT 1809.

The bell-frame is designed for the ring of eight bells, and probably dates from the augmentation in 1853.

1. Blomefield X, 161.
2. C&C.
3. CBN., p. 156.
4. 1461, Andrew Davy of Loddon, NCC Brosyard 265.
   1461, William Galys of Loddon, NFK Grey 45.

MUNDHAM, St Peter. April 1978.

The exterior of the square west tower, which appears to have been built in a single campaign, is of flint with limestone dressings, and there is considerable use of brick inside the tower. The traceries of the two-light windows to the ground-floor chamber and to the second-floor bell-chamber are identical, and are similar to those in the late 15th century tower at nearby Loddon[1]. A bequest to the bells at Mundham St. Peter in 1499[2] may well mark the completion of the tower.

The bells are a derelict ring of three, tenor diameter 34 inches (864 mm) weighing approximately 7 cwt and sounding B flat.

1. + AVE : MARIA : GRACIA : PLENA : DOMINVS : TECVM

2. + Dulcis Cisto Melis * Campana Vocor Michis

3. + Hac in Conclave Gabriel * Nuc Pange Suave

1 is probably a 14th century bell[3]; and 2 and 3, which are almost certainly the bells mentioned in a will of 1499[4], were probably cast by John Baly[5] at the Norwich bell-foundry. A certificate of 1549 states that the procceds of a bell of 7 cwt, which had been sold by the parishioners and churchwardens to a Norwich merchant, had been applied to local charitable uses, and the 1552 Inventory records bells of 3 1/2 cwt and 6 cwt. A faculty petition of 1748[6] stated that there were two bells in the steeple of St Peter's church and a single bell in the gable of St Ethelbert's church: permission was given to dilapidate St. Ethelbert's church and sell the bell and other materials for the benefit of St. Peter's church. Since the bell is much too small to sound effectively with the two larger bells, it seems very likely that the present St. Peter's treble, weighing about 2 cwt and small enough to hang in a gable-cote, might have come from St. Ethelbert's shortly after 1748.

The existing bell-frame was designed for two bells to swing side by side from north to south, and has been adapted to accomodate the additional bell by shortening the existing bell-pits and contriving an additional pit across the south end of the frame. The trusses have a pair of inclined braces without king-posts, and the frame is constructed of re-used timber. The structure pre-dates the addition of the treble bell, probably in c. 1748[7], and the date 1728, carved on the distance-piece of the wheel of the tenor bell, may indicate a date for the rehanging of the pair of bells on a new frame.

1. See p. 270.
2. 1499, William Wrote of Mundham, NCC Sayve 21.
3. See p. 440.
4. See note 2.
5. See p. 430.
6. NRO., NDR., FCB. 2, fo 157.
7. See above.

SEETHING, St Margaret. April 1978.

The round west tower is of three stages, and two distinct phases of construction can be seen from inside. The two lower stages to a total height of about 45 ft (15 m) are of flint with dressings of limestone, and the arch from the ground-floor chamber to the church is neatly constructed. The window openings, which have semi-circular heads, are constructed with internal and external details of limestone. The upper stage of about 15 ft (5 m) is of different construction, employing flint with a mixture of brick, and the details of the sound-windows are formed in brick. It would appear that part of the south side of the bell-chamber has been completely reconstructed in comparatively recent times. No bequests to the tower fabric have been traced, and the only indication of a date for the enlarging of the nave is found in a bequest to the porch in 1417[1]. The details of the porch support an early 15th century date, and it seems likely that the rebuilding of the nave was then complete, implying that the most likely date for the addition of the upper stage to a Norman tower is in the early years of the 15th century.

The bells are a ring of three, tenor diameter 35 inches (890 mm) weighing approximately 8 cwt and sounding A.

1. ANNO DOMINI 1634

2. IOHN SMITH CHVRCHWARDEN IOHN STEPHENS FECIT 1721

3. IOHN BREND MADE ME 1638

A certificate of 1550 records the sale of a bell weighing 3 cwt to a Mr Suckling of Norwich, and the 1552 Inventory records bells of 4 cwt, 5 cwt and 7 cwt. 1 is by William Brend of Norwich.

The surviving part of the bell-frame appears to be of the same date as the upper stage of the tower, and the missing pit is on the same side as the brick rebuilding of the south part of the bell-chamber. The remaining pits, which appear to be part of a four-bell frame designed on the 'hollow square' plan, are designed for bells whose weights would have been approximately 10 cwt, 12 cwt and 15 cwt. The foundations of the frame are on two levels, and the trusses are of similar pattern to those in the frame at Woodton[2], with double braces on either side of the king-posts. From the suggested date of the tower, the frame appears to be early 15th century.

The bell-gear is of some interest, since the initials I S with the date 1721 appear on the wheel of the tenor bell, suggesting that much of the work in the tower has remained unaltered since the 18th century. The bells are no longer swung.

1. C&C.
2. See p. 285.

SISLAND St Mary the Virgin. July 1979.

There was formerly a tower, to which a bequest was made in 1536[1], but a Faculty petition of 1743[2] stated that the steeple had been demolished from time immemorial. If the tower referred to in 1536 was of masonry it must have been built inside the nave of the church in a similar manner to the tower at Thurton[3], since there is no structural evidence for the rebuilding of any part of the west wall of the nave as there would be if a projecting tower had been removed. The cupola, or turret, which replaced the tower had been built up on the foundation of the old steeple and was only large enough for one bell; and the structure was said to be so much decayed by weather that the bell was in danger of falling. There were two useless bells in addition to the one then hanging in the cupola, and permission was given for the sale of two bells: the proceeds of the sale were to be used for rebuilding a new cupola of the same and size as the timber structure, in brick and stone. According to a contemporary account the church was struck by lightning in 1761, when the lath and cast was stripped off three sides of the cupola, leaving the thatched roof intact[4]. Clearly the cupola had not been reconstructed in masonry according to the terms of the Faculty of 1743.

The existing cupola, which is built within the west end of the church, rests on the west gable and on a massive beam spanning the nave. The four vertical corner posts rise above the level of the church roof, and the sides of the cupola are of studwork with a cladding of cedar shingles: the cupola is finished by a timber parapet surrounding a recessed spire. The structure appears to be in good condition and is probably an 18th century reconstruction of the timber cupola mentioned in the 1743 Faculty petition[5]: funds may not have been sufficient for a masonry reconstruction, of which there is no evidence. Timber belfries of this type are uncommon in Norfolk, but there are many examples in Essex[6], and they are relatively common near the Welsh border[7].

There is a single bell, diameter 30 inches (759 mm) weighing approximately 4 3/4 cwt.

1. Anno Domini 1622
   (also Norwich foundry mark)

The 1552 Inventory records three bells whose total weight was 7 cwt, and the existing bell is by William Brend of Norwich.

The bell-frame, which is designed for a single bell, is integral with the cupola, and is probably 18th century. The two trusses have curved braces supporting long frame-heads.

1. C&C. 2. NRO. NDR. FCB 2; fo 59.
3. See p. 275.
4. *Guide to Sisland Church*, 1972.
5. See note 2.
6. C. A. Hewitt, *Church carpentry: a study based on Essex examples*, Chichester, 1982.
7. The writer has visited examples at White Ladies Aston, Kington and Broadwas in Worcestershire.

THURTON, St Ethelbert. June 1978.

The tracery of the west window of the church is similar to 15th-century work at Norwich St. Saviour, where the construction of a new chancel can be securely dated to the years 1423 - 1425[1], and at Ashwellthorpe, where a bequest suggests a date of c. 1415 for the chancel[2]. A later tower has been constructed by building a brick wall across the church, closing off an area at the west end: two transverse walls have been constructed, leaving small chambers to the north and south of the tower, and a tall arch opens to the shortened nave. The tower rises above the central square so formed, and is built in flint, with a liberal proportion of brick. No freestone is visible; and the tower quoins, the details of the window openings, and the stubs of vanished 'Y' tracery in the sound-windows, are all of brickwork, as is the neat parapet. A brick stairway is formed in part of the small chamber to the north of the tower, the rest of which is divided into two small rooms by the insertion of a floor: the rooms are well lighted by rectangular windows in the north wall of the church, and it is possible that the two rooms formed a simple dwelling place for a sacristan or a parish chaplain[3]. The date of the tower is suggested by a bequest in 1514[4].

The bells are a ring of three, tenor diameter 29 3/4 inches (756 mm) weighing approximately 6 cwt.

1. Uninscribed.

2. + Virginis Egregie * Vocor Campana Marie

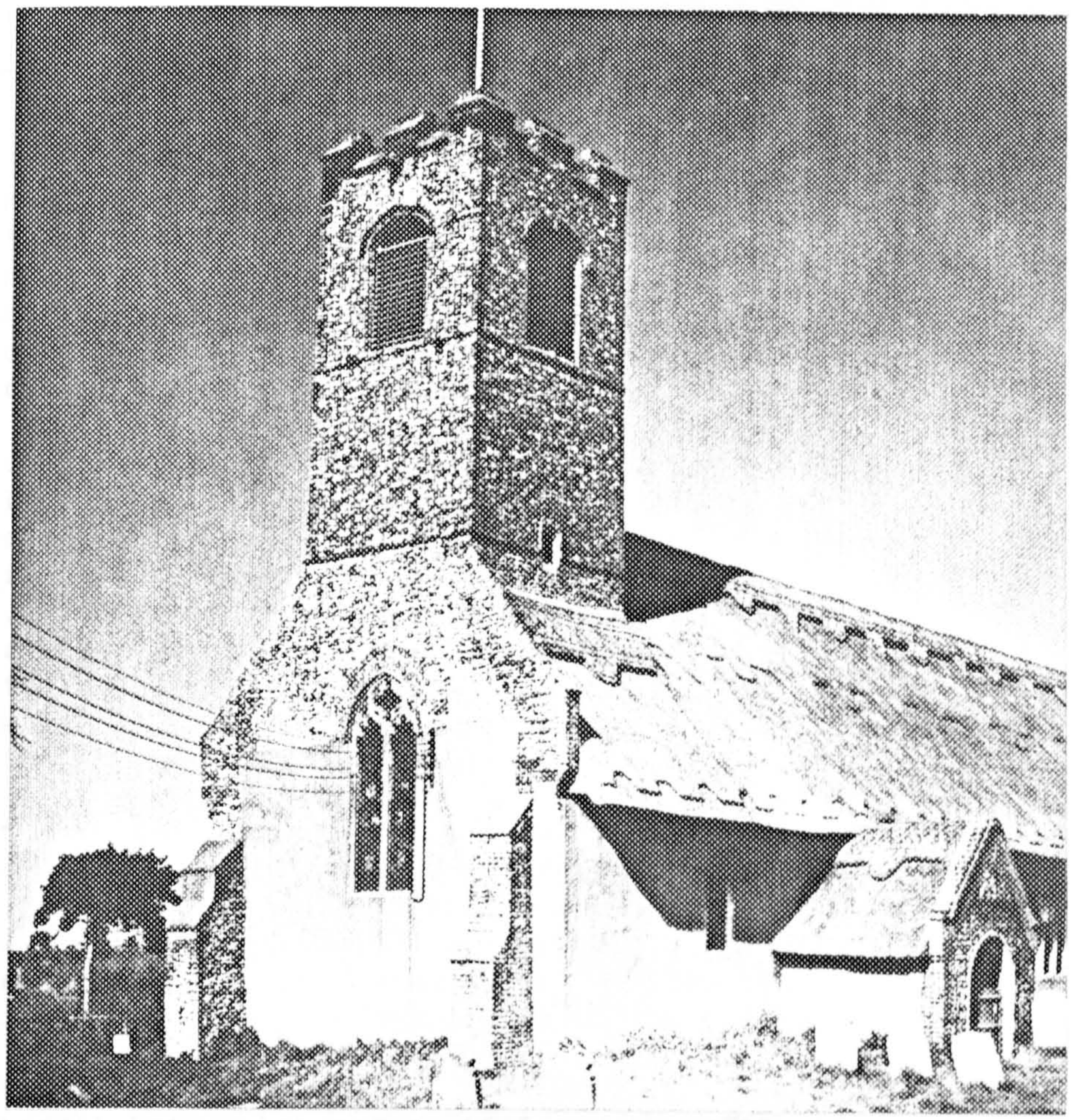
3. ANNO DOMINI 1630
   (also Norwich foundry mark)

The 1552 Inventory records bells of 2 cwt, 2 3/4 cwt and 3 1/4 cwt, and there was a bequest to the making of the great bell of Thurton in 1514[5]; 2 is a very fine casting, probably by John Baly of Norwich[6]. 1 has cannons of a design use by Edward Tooke of Norwich, and the undistinguished quality of the casting suggests that the bell may well be his work[7]: 3, by William Brend of Norwich, is cracked.

The bell-frame, which is designed for the existing ring of three bells, is set diagonally in the bell-chamber and is clearly not contemporary with the tower structure, since the large holes for the foundation beams of a former bell-frame remain in the walls. There is no firm evidence for the date of the existing bell-frame, whose trusses have 'X' bracing, but the appearance of the timber suggests that it is probably no older than the 19th century.

1. C&C. 2. C&C.
3. The church was an impropriate rectory belonging to Langley Abbey (Blomefield X, 181). No vicarage was endowed, and the church was probably served by a stipendiary chaplain in the same way as were many of the churches dependent on Norwich Cathedral Priory: see p. 340.
4. C&C.
5. 1514, William Deny of Bergh Apton, NCC Spurlinge 25.
6. See p. 429.
7. Compare with bells at Bergh Apton, p. 47.

May, 1984.



Tower of c. 1514.

THWAITE ST. MARY, St Mary the Virgin. April 1978

The square west tower is built of flint with external dressings of limestone: brick is used for the construction of the parapet, and for all internal structural details. Although no bequests to work on the tower have been traced, the design of the window traceries and the use of materials suggest a 15th-century date.

There is a pair of bells of which the larger has a diameter of 24 1/2 inches (632 mm) weighing approximately 3 1/2 cwt.

1. Uninscribed

2. THOMAS NEWMAN MADE MEE 1711

The 1552 Inventory records bells of 2 cwt and 3 cwt; and the design of the treble bell, which has a neat repetitive pattern in the place of an inscription, suggests that it is probably a late 14th-century casting from the Norwich bell-foundry[1].

The bell-frame, which is designed for the existing pair of bells, appears to be 20th-century.

1. See p. 426.

TOPCROFT, St Margaret. June 1983.

The tower is round for the lower section of about 20 ft (6.5 m), and the octagonal section above appears to have been built in two phases, a lower part of about 25 ft (8 m) and an upper part of about 15 ft (5 m): removal of a mortar rendering in 1983 has fully revealed the structural details and materials. The round section of the tower is entirely of flint, but is much patched in brick of similar appearance to that used in the chancel which has a date-stone for 1712: the ground-floor chamber is lighted by a large traceried window of two lights. The lower octagonal section is of flint with brick quoins, and there are eight lancet sound-windows (re-opened in the recent restoration of the tower) whose details are entirely of brick. The upper octagonal section which houses the bells is very finely constructed in flint, with internal details of brick and external details of limestone: there are two-light sound-windows in the cardinal faces, and their tracery patterns are reproduced in flushwork on the alternate faces. The tower is completed by a parapet which is also of knapped flint with limestone dressings.

No definite bequest to the fabric of the tower has been traced, but two wills of 1435 and 1437 suggest that work was then in progress[1]. In his will of 1419, John Stanhawe of Bedingham makes a bequest which suggests that there was major building work at Topcroft[2], and a will of 1435 bequeaths sums of money to the 'emendation' of both the font and the steeple window[3]. The tracery of the window to the ground-floor chamber is identical to that found in many of the Norwich churches, and is very similar to that employed by John Woderofe, who was master mason at Norwich Cathedral Priory between c. 1415 and c. 1451[4]. It seems probable that a major reconstruction of the church was nearing completion in the 1430's, and that the provision of a new font and a window to give light at the west end of the church, took place in c. 1436. The will of 1437[5], which leaves money to bells in the steeple and to paving the church, appears to mark the final stage of rebuilding; and it is possible that the addition of the topmost stage to the tower, where the traceries of the sound-windows are consistent with a date in the first half of the 15th century, was part of the work. The eight brick lancet windows in the lower octagonal part of the tower suggest that the bells hung at that level before the work of c. 1437.

The bells are a ring of three, tenor diameter 30 1/4 inches (768 mm) weighing approximately 5 1/2 cwt and sounding C.

1. MEARS & STAINBANK FOUNDERS LONDON 1876

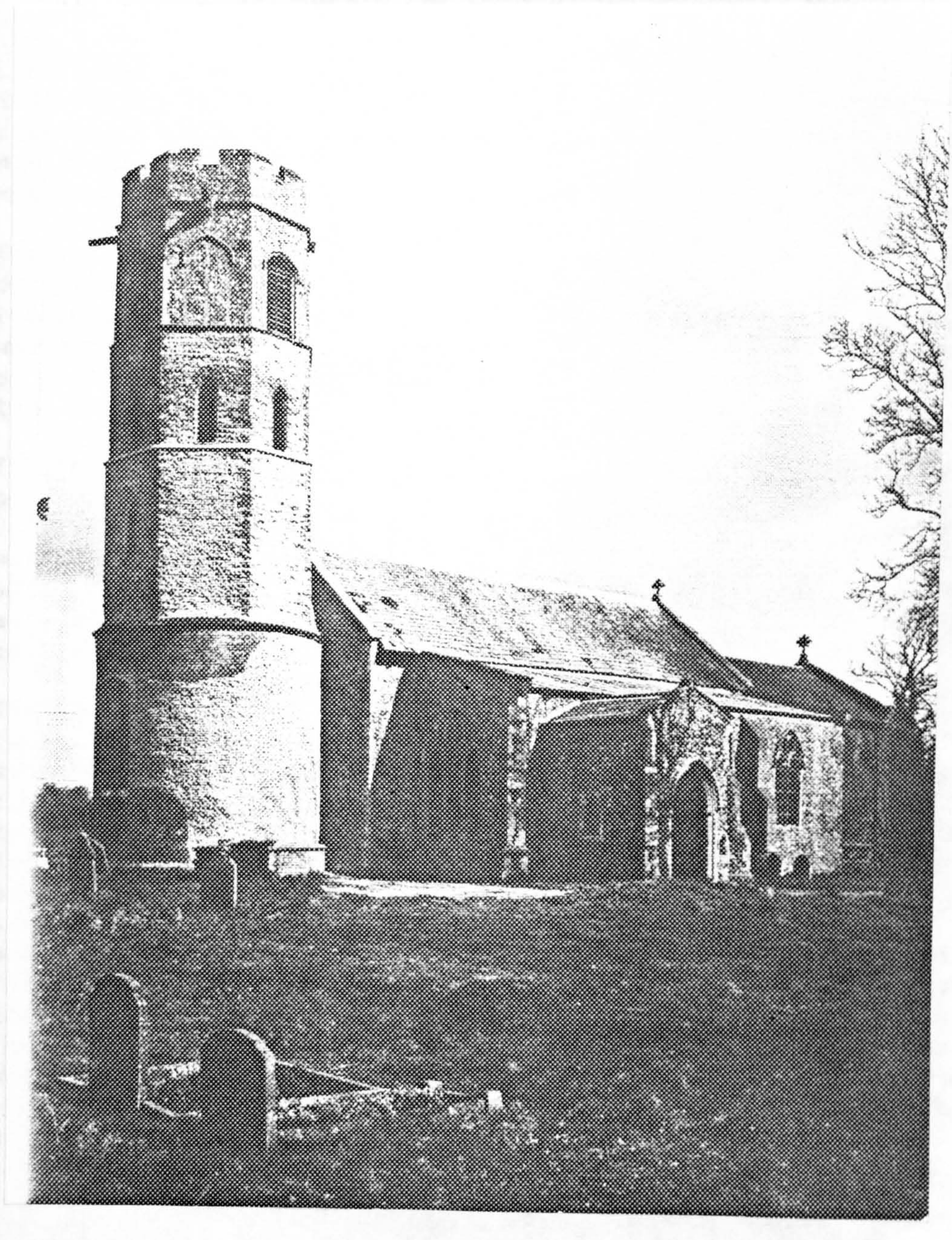
2. IOHN BREND MADE ME 1640

3. IOHN BREND MADE ME 1640

1. C&C.
2. 1419, John Stanhawe of Bedingham, NCC Hyrning 55, discussed in the notes on Woodton, p. 283.
3. C&C.
4. NRO., DCN., Sacrist's rolls record details of work on the fabric, and payments to masons. 5. C&C.

TOPCROFT

April, 1984.



Round tower with two octagonal stages, the uppermost probably dating from c. 1437.

A bequest to the bells in 1437 has already been noted[1], and the 1552 Inventory records bells of 4 cwt, 6 cwt, 8 cwt and 10 cwt. A note in the back of the Register of Baptisms and Marriages 1753 - 1812[2], dated May 1864, reads:

> 'The cracked bell to be recast, and a new one put in the place of the one which was sold 20 years ago'.

L'Estrange records three bells, all inscribed with the same inscription as on the existing 2 and 3, and notes that the tenor was cracked[3]. It would appear that the cracked tenor was replaced by a new treble bell in 1876, and that the fourth bell, sold in c. 1844, was never replaced.

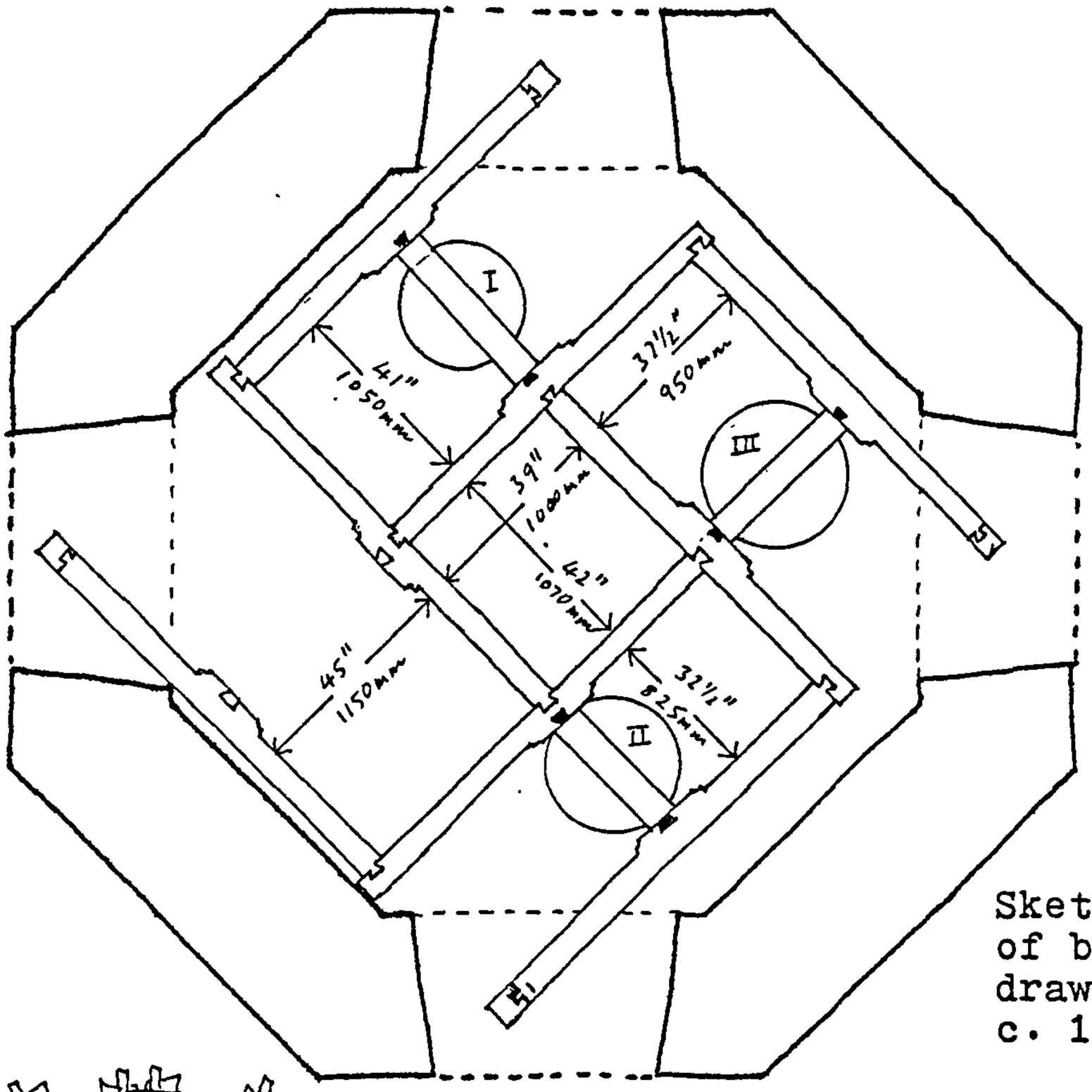
The existing bell-frame, in the upper octagonal stage of the tower, is designed for four bells and has remained comparatively unaltered since its installation. Because the bell-chamber has long been open to the weather and the floor is in a very unsafe state accurate measurement of the frame was almost impossible, and the account given is the best that can be made in the circumstances.

The frame is designed with four bell-pits arranged around a central space, parallel to the NE, NW, SW and SE walls of the octagonal belfry[4]: the pits are open-ended to allow the bells to swing into the window reveals. The fact that the two largest of the four bells for which the frame was designed have been removed[5] accounts for the large size of the vacant bell-pit, and that occupied by the present treble bell which replaced a cracked bell in 1876.

The foundations of the bell-frame are not built into the walls of the tower, and the structure rests on a stout floor of oak boards supported by a relatively light set of joists. The lower members of the frame are jointed together on a single level using mortise and tenon joints; and the weakening of the foundation members by these joints seems not to have concerned the makers of the frame, who must have considered that the support given along the full length of each beam by the oak floor was sufficient. Sixteen vertical posts, supporting the frame-heads, are tenoned into the foundations of the frame. Four of the posts are set at the extreme ends of the outer trusses of the frame, four are set opposite to these posts, and the remaining eight posts act as king-posts to support the bearings of the bells. The trusses of the bell-pits are of uniform design, with strong 'X' braces between each pair of vertical posts, including those at the ends of the bell-pits[6].

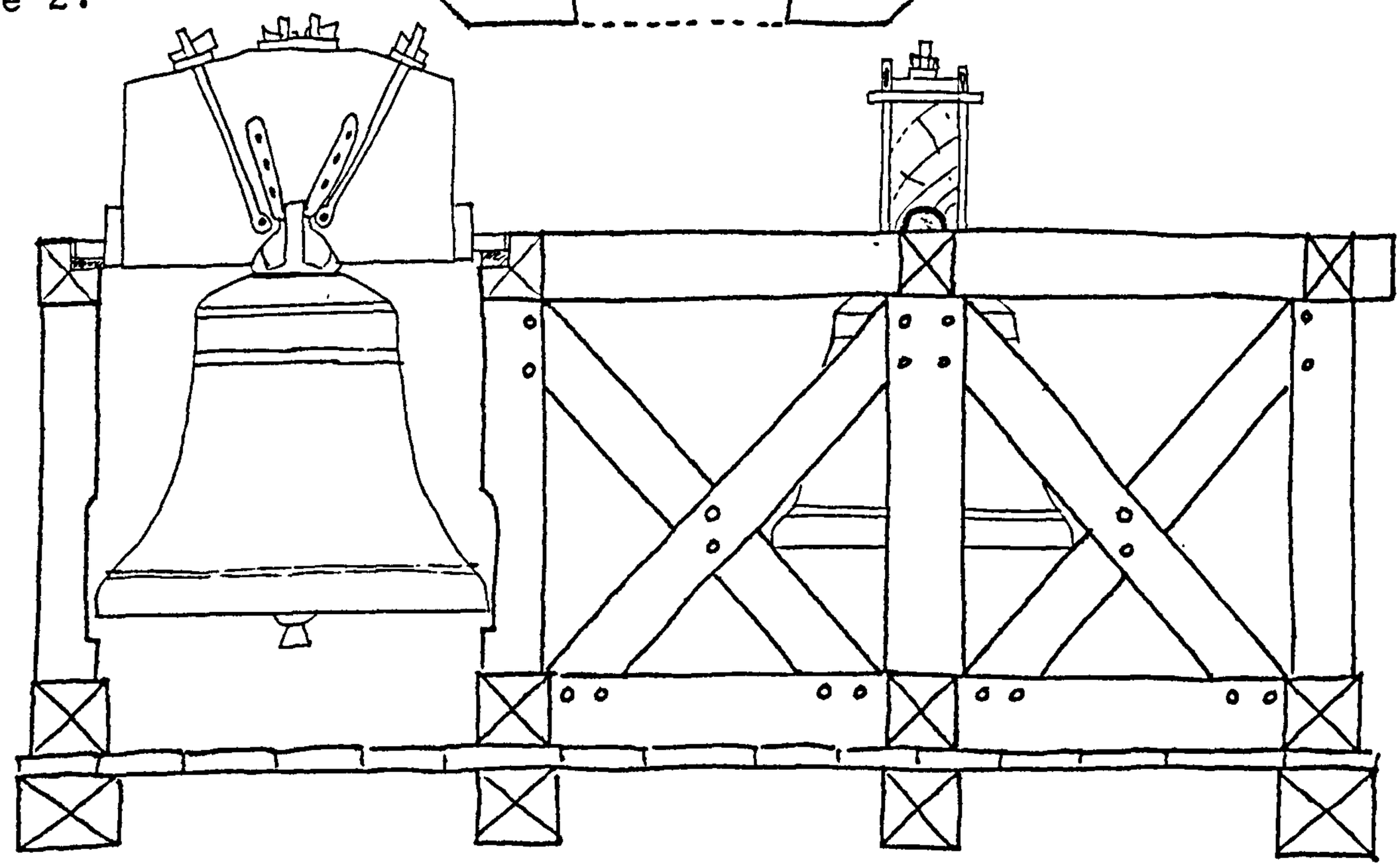
1. See p. 277.
2. NRO., PD 389/1.
3. CBN., p. 227.
4. See diagram, p. 280.
5. See above, note 2.
6. See diagram, p. 282.

Figure 1.



Sketch plan of bell-frame drawn at c. 1:50.

Figure 2.



Sketch of section of bellframe drawn at c. 1:25

The frame-heads are very neatly cut to give a thickened section for the mortises which receive the tops of the king-posts, and to accomodate the bearings of the bells[1]; and all horizontal members at this level are jointed together using dovetail joints. Because of the design of the frame-heads there is no need for grooves to allow the bells to swing clear of the timbers.

The frame is designed for a ring of four bells as follows:

SW pit 3 ft 9 inches (1150 mm) for a bell of 14 cwt.

NW pit 3 ft 5 inches (1050 mm) for a bell of 11 cwt.

NE pit 3 ft 1 1/2 inches (950 mm) for a bell of 8 cwt.

SE pit 2 ft 8 1/2 (825 mm) for a bell of 5 cwt.

The central trap measures 3 ft 3 inches (1000 mm) by 3 ft 6 inches (1070 mm) and the traps in the lower floors of the tower are pared to allow the passage of bell of diameter 3 ft 3 inches (1070 mm).

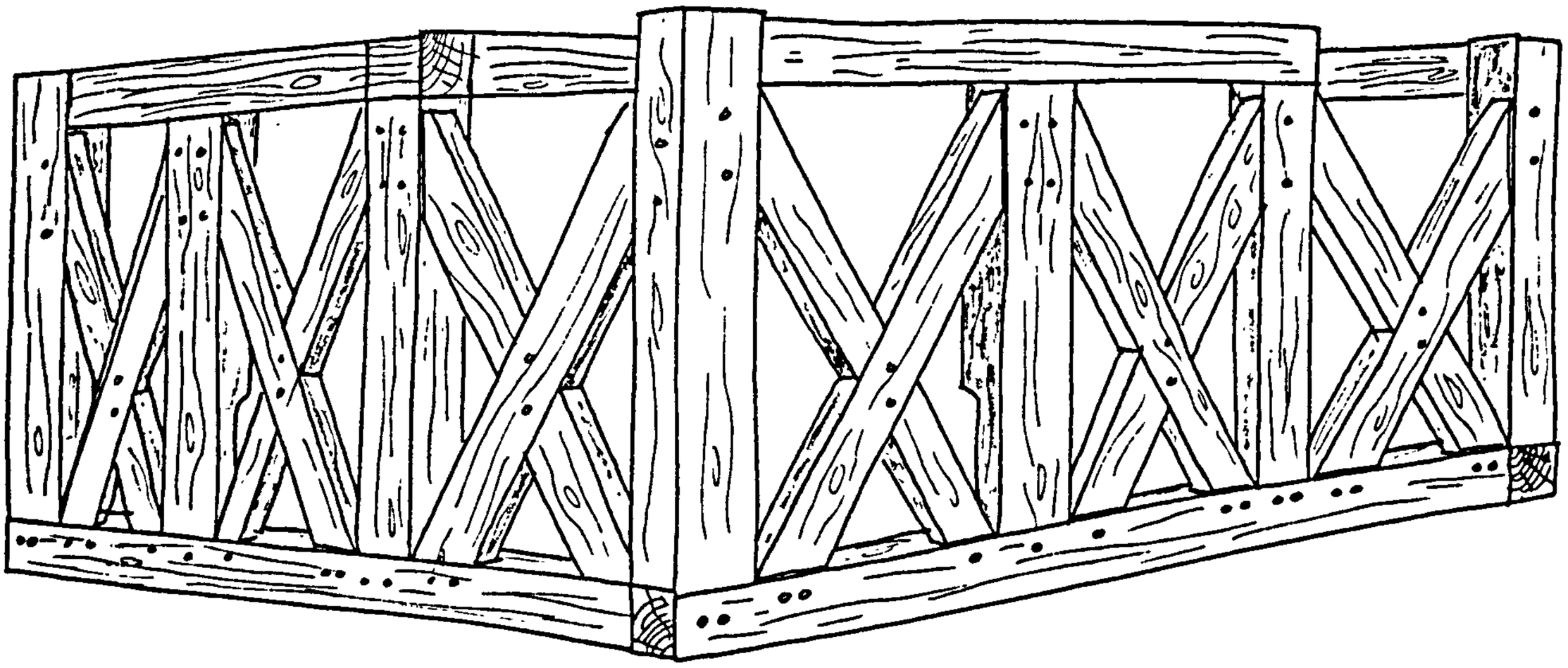
The churchwardens' accounts, which are continuous from 1683[2], record no major work on the bells, and the frame would appear to be at least as old as the 17th century. The major differences between the Topcroft frame and those which are ascribed to the 15th and 16th centuries are that it is not an integral construction with the tower, and that it is supported by a boarded floor, in the manner of 17th-century and later frames[3]. It is most likely that the Topcroft bell-frame is a structure of c. 1640, the date of at least three bells which have hung in the tower.

1. See diagram, p. 280.
2. NRO., PD 389/41.
3. See p. 384.

TOPCROFT, St Margaret.

June 1980.

Figure 3.



Perspective sketch of bell-frame.

WOODTON, All Saints. June 1983.

Two distinct phases can be identified in the construction of the west tower, whose lower stage is round, with an octagonal belfry completing a total height of about 60 ft (20 m) to the top of the flushwork parapet. The lowest section of about 40 ft, (13 m) is built of rough uncoursed flints with a mixture of iron-stained nodules, and the ground-floor chamber has a traceried west window of two lights. All structural details of the pointed archway to the nave are hidden by a mortar rendering. The narrow window with a deep internal splay, which opens from the first floor to the west, has internal jambs and voussoirs of flint, and the soffit of the arch is of hard mortar: the external jambs are also of flint, but the head of the opening is formed from a single block of limestone. There is also a blocked doorway which formerly opened to the east. At the top of the round section of the tower there are the blocked remains of the four sound-windows to a former bell-chamber. The details of the arched openings are entirely of flint with soffits of hard mortar, and there are internal splays, except along the horizontal cills which are sloped outwards. The octagonal belfry, about 18 ft (6 m) tall, which is constructed of flint with internal details of brick, has a facing is of knapped flint with limestone details; and the remaining stubs suggest that the sound-windows were formerly filled with 'Y' tracery.

No bequests to the tower structure have been traced but there is evidence in the will of John Stanhawe of Bedingham[1], which refers to building work at Woodton church in 1419, for the major reconstruction of the nave and chancel (which are not structurally divided). The traceries of windows in the north side of the nave and in the

1. John Stanhawe of Bedingham, NCC Hyrning 55: 'lego ad emendationem ecclesie de Bedyngham xxiij s. iiij d., lego ad fabricationem ecclesie de Wodeton iij s. iiij d., lego ad fabricationem ecclesie de Topcroft iij s. iiij d., lego ad fabricationem ecclesie de Hedenham iij s. iiij d,. lego ad emendationem ecclesie de Werlyngworth xx s.'. The will seems to draw a distinction between the 'emendation' of a church and a full-scale rebuilding, as implied by other contemporary bequests to Hedenham and Topcroft (C&C).

chancel are similar to those found at Ashwellthorpe in c. 1415[1], and at St Saviour's church, Norwich, where the chancel was built in the period 1423 - 1425[2]. Earlier window openings in the north wall of the nave show that the height of the church roof was raised when the nave was rebuilt, and the round tower would then have been little taller than the church. It is very likely that the octagonal belfry is roughly contemporary with the reconstruction of the nave and chancel .

The bells are a ring of six, tenor diameter 34 1/2 inches (880 mm) weighing 7 cwt 2 qr 4 lbs and sounding A[3].

1. PACK & CHAPMAN OF LONDON FECIT 1772
   LAST DRING CH. WARDEN

2. IOHN BREND MADE ME 1641
   MR ROBERT SVCKLYNG WITH OTHERS GAVE THIS BELL

3. IOHN BREND MADE ME 1641

4. IOHN BREND MADE ME 1641

5. IOHN BREND MADE ME 1641

6. IOHN BREND MADE ME 1641

A certificate of 1549 records the sale of a bell of 9 cwt to Mr Barwick, a Norwich merchant, and the 1552 Inventory records bells of 3 cwt, 5 cwt and 7 cwt.

After a silence of 60 years[4] the bells were rehung in a new steel frame, and rung for the first time on December 30th, 1983[5]. Access to the old bell frame, which remains in position above the new installation, is difficult because of the poor state of the floor.

The frame which held the six bells before the 1983 restoration was arranged in two tiers: there was a frame for the four larger bells in the lower part of the second-floor chamber, and the two lightest bells hung between a pair of parallel beams built into the tower walls at the level of the springing of the sound-window arches. The plan of the lower frame, which has been much altered and cut about to take successive rearrangements of the bells and was last patched up in 1889[6], is for four bells to swing in open-ended pits around a central space, as at nearby Bedingham[7]. The foundation of the frame is built into the walls of the octagonal belfry and is arranged on two levels. At the lower level four beams run north-west - south-east,

1. C&C.
2. C&C.
3. Information from the Whitechapel Foundry (1983).
4. Information from Mr. J. Duffield of Norwich, who rang there.
5. The writer was present.
6. See cast plaque in the tower recording work on the bells.
7. See p. 247.

with the outer pair resting on the window cills while the inner pair are built into the belfry walls. The upper layer consists of four beams at right-angles to the lower set of beams, with the two outer beams running the full width of the lower set, and the two inner beams running for two-thirds of the width of the outer set. The ends of the upper beams are lap-dovetailed into the lower beams, and the two sets are halved together where they cross.

In their original form the double-braced trusses were of similar pattern to those in the frame at Shimpling[1], and the four-bell frame was designed for a ring of bells as follows:

> North-east pit 2 ft 4 1/4 inches (768 mm) wide, grooved at 2 ft 11 inches (902 mm), for a bell of 7 cwt.
>
> North-west pit 2 ft 3 inches (686 mm) wide, grooved at 2 ft 7 1/4 inches (794 mm),for a bell of 5 cwt.
>
> South-west pit 3 ft 0 1/2 inches wide (927 mm), grooved at 3 ft 4 inches (1016 mm) for a bell of 10 cwt.
>
> South-east pit 2 ft 6 inches (775 mm) wide,grooved at 2 ft 11 inches (889 mm), for a bell of 7 cwt.

The floor immediately below the bell-frame has a central trap measuring 3 ft 6 inches (1065 mm) square, but the central space in the bell-frame measures only 2 ft 6 inches (775 mm) by 1 ft 9 inches (540 mm). While all four bells for which the frame was designed would have passed through the floor, none could have been hauled up through the bell-frame; and the largest of them could not have been brought into the bell-chamber through one of the sound-windows. It seems that the bells were hauled up above the frame before it was assembled, and the removal of the tenor bell in 1549[2] could only have been achieved by breaking it into pieces. When the six bells were removed from the tower in 1982, they were taken out through one of the sound-windows.

The four-bell frame appears to be early 15th century, and the hanging of the two smaller bells above the others probably dates from the augmentation of the bells in 1641[3]. The lower frame appears to be contemporary with the octagonal belfry.

1. See p. 183.
2. See p. 284.
3. See inscriptions on the bells.

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III. TOWERS

CHURCH TOWERS IN GENERAL.

INTRODUCTION

Large church bells, of similar size to those which hang in our church towers at the present time, were in use in England at least as early as the 7th century, and a large number of Anglo-Saxon towers which were clearly designed for bells survive among the parish churches of England[1]. In many parts of the world large bells are hung stationary and are sounded by internal clappers pulled against them by means of a rope, or even by large timber beams suspended from chains and swung against the outside of the bell[2]. At least one instance has been noted in Norfolk where, before the construction of a masonry tower, the church bells were hung in a tree in the churchyard[3]. The usual English method of sounding a bell, however, is by mounting an iron clapper inside the bell, which is itself fixed to a stout beam mounted on axles, and swinging the whole assembly: this causes the bell to speak as the clapper strikes the inside of the bell.

When a bell is sounded by swinging it through an arc of a circle, certain forces are generated at the axles on which the bell and its ringing gear are mounted. If a bell of say, 5 cwt, is sounded by the method known as 'chiming' (when it is swung through an arc of about 10° on either side of the vertical) the maximum vertical force at the axle will hardly exceed the dead-weight of the bell and fittings: the horizontal force will vary in magnitude and direction as the bell swings from side to side, and these horizontal forces will not exceed about 1/2 cwt weight. As the arc through which the bell is swung increases, so the maximum vertical and horizontal components of the forces at the axles increase. When a bell of 5 cwt is rung through a full circle, a practice which was common at least as early as the 14th century, the maximum vertical component of force is approximately 20 cwt weight downwards, and the horizontal components of force vary rapidly between maxima of approximately 10 cwt weight in opposite directions[4]. The very large forces which are produced when church

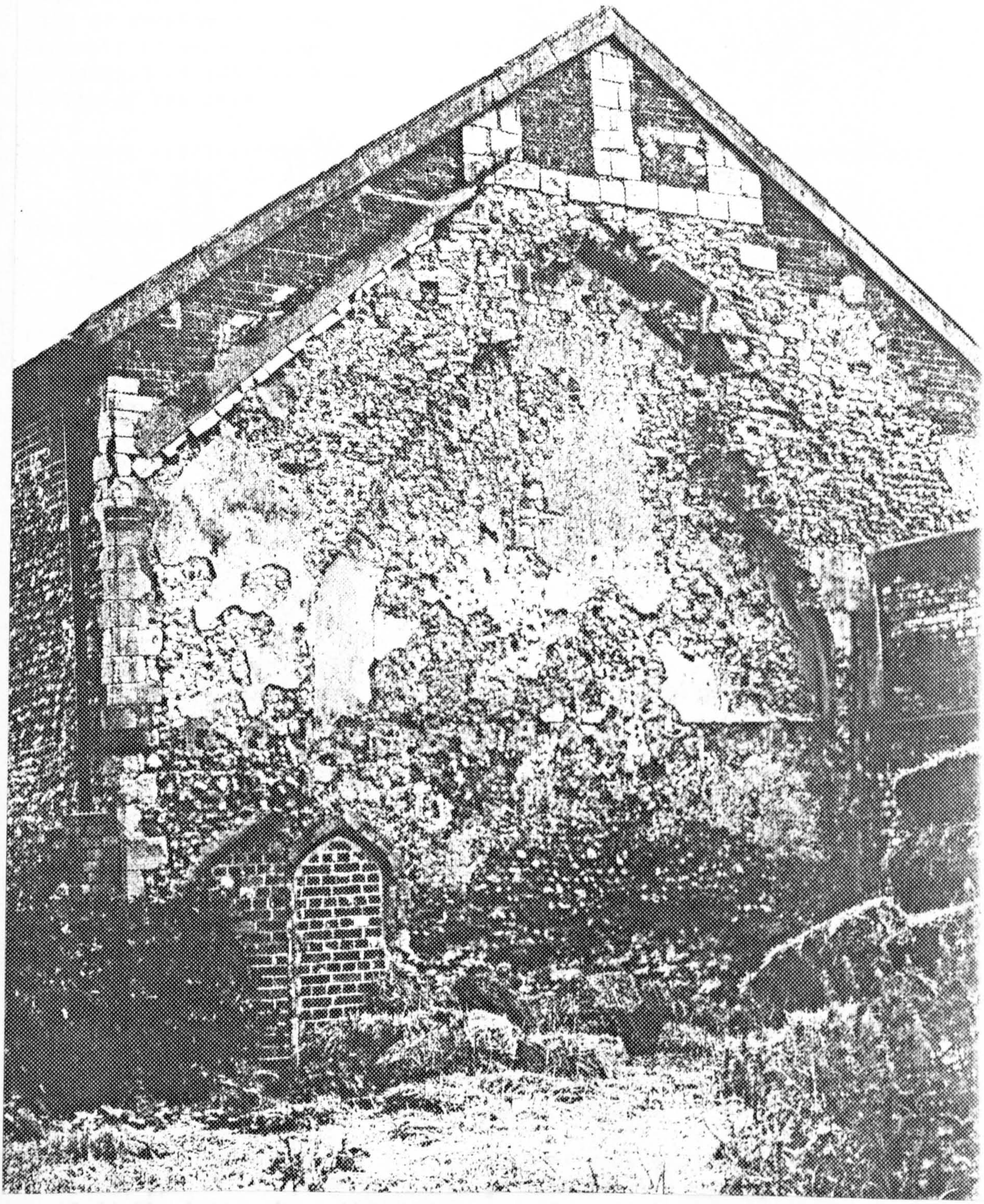
1. CBE, p. 8.
2. EHM, p. 4.
3. North Lopham is recorded in the Domesday Book of Norwich Cathedral Priory, c. 1413, (at present in the Dean and Chapter's Library at Norwich Cathedral) as having two bells hung in a tree.
4. E. H. Lewis. *Bell towers and bell hanging.* Central Council of Church Bell-ringers, 1914. There is a full discussion of the forces caused by the ringing of bells in full circles and their effects on tower fabric. Chiming is not analysed, but it is a matter of simple Mathematics to show that a bell of 5 cwt, for example, produces a horizontal force of about 40 lbs weight when swung through an arc of 10° on either side of the vertical.

bells[1] are in use can be observed in many towers, where the oscillation of the fabric can be distinctly felt, and the results of the long-term ringing of bells in a badly designed framework can be seen in the large vertical cracks observed in so many towers. Poor positioning of the heavier bells in a ring can twist the fabric, thus generating cracks at the corners where the tower is joined to the church[2].

When small bells are hung they are often mounted on bearings which are directly secured into the masonry of a small turret, or an extension of the gable-wall of the church, and this method of hanging is usually quite satisfactory since the small bells are rarely rung in full circles. Many bell-cotes survive on top of the gable walls dividing the nave and chancel of a church, where they would have been conveniently situated to allow a sanctus or sacring bell to be hung[3]. The former parochial chapel of St Mary, near New Buckenham castle[4], has the remains of a bell-cote designed for two small bells on the west gable, and it is likely that other churches may originally have had similar arrangements for their bells. The provision of larger bells in greater numbers made it necessary to construct a suitable tower in which to hang them, and the purpose of the massive bell frame inside the tower is to transmit the large forces generated when heavy bells are swung with as little hazard as possible to the tower fabric.

Although many of the towers visited in south-east Norfolk retain some of their contemporary features, there was no single example which could be said to have retained most of its pre-Reformation appointments. During the course of visits to three-hundred or so church towers between 1978 and 1984 no tower more derelict than that at Deopham[5], where the bells have probably not been rung for more than a century, has been found: accordingly, it has been chosen for description as a tower where most of the pre-Reformation details may be recovered.

1. A typical ring of six bells in a parish church tower might have a tenor bell of 10 cwt and a total weight of about 45 cwt.
2. Direct observation and analysis in towers during ringing, in company with architects and engineers.
3. See p. 341.
4. The castle referred to is at grid reference TM 084904, see p. 289.
5. See p. 290.



Photograph of west wall of the former parochial chapel of St Mary, showing the bricked-up remains of a double bell-cote, possibly of Norman date.

A TYPICAL CHURCH TOWER

Ladbroke's lithograph of Deopham tower in c. 1825 and Colling's lithograph of 1846 show that recent restoration of the outside of the tower has been conservative[1], and recent stripping of plaster from the inside walls of the entire ground-floor chamber has revealed constructional details which are rarely visible in other towers. The date of Deopham tower may be fairly closely established by considering bequests to work on the bells[2]. Money was left in 1473 for the making or hanging of the bells when John Crennok's will contains the following bequest:

> 'lego fabricatione sive suspensione campanarum predicte ecclesie xiij s. iiij d.',

and William Seman's will of 1488 contains the bequest:

> 'lego ad reparationem campanarum ij s.'.

These bequests suggest that the tower was constructed during the third quarter of the 15th century, that it had settled sufficiently by c.1473 for the bells to be hung, and that further additions to the bell installation were under consideration 15 years later. An examination of the flintwork in the nave and aisle walls shows that the tower was added to a church which already had two aisles and a steeply-pitched roof, and the straight joint between the tower and the clerestory shows that the nave walls were increased in height above the arcade after the completion of the tower. The corbels which supported an earlier roof remain inside the nave, and bequests for leading the church suggest that the existing shallow-pitched roof was constructed in c. 1520[3].

The design shows many similarities to that of the larger tower at Hingham, 2 miles away, which was probably completed about 100 years earlier[4]: the Deopham tower has similar proportions and, although the details of windows and doorways at Deopham differ from those at Hingham, an unusual vine-trail frieze appears in both towers. There is little doubt that the mason in charge of Deopham tower was required to imitate certain features and details from Hingham[5], although he was given a free hand to design traceries and mouldings. Deopham tower has the advantage of having being completed with a fine flush-work parapet, a feature which, to the considerable detriment of its appearance, Hingham lacks.

1. Ladbroke. Also R. and J. L. Brandon, *Parish Churches*, London, 1846-1847.
2. Will of John Crennok, NRO., NCC. Paynot 15.
   Will of John Seman, NRO., NFK. Grey 405.
3. C&C. 4. C&C.
5. See L. F. Salzmann, *Building in England down to 1540*, London, 1952, pp. 547-549, for a building contract for Helmingham, Suffolk, tower where the masons were to imitate details from other towers.

DEOPHAM TOWER

The building materials used at Deopham are those commonly found in Norfolk. Flint is used liberally for construction and facing; brick is used exclusively for the soffits of arches and, mixed with flint, in the jambs of windows and doorways; and limestone is used for the construction of the very wide arch betwen the nave and the tower ground-floor chamber, for arrises to provide a fair finish at the edges of plastered surfaces, and for the treads of the spiral stairways. The external facing of the tower includes sections of split flints, knapped flints and flint nodules, and limestone is used for all quoins, window traceries, weather courses and off-sets: decoration is achieved by the contrast between dark coloured flint and light coloured limestone and it would appear that a special blue flint was imported to give a colourful filling in the blind openings at first-floor level. The only external appearance of brick is in the voussoirs which are visible above the weathermouldings of the window openings; these are of alternate flint and brick and, although very decorative, the practical purpose of such voussoirs is to provide a bond between the brick soffits of the arches, and the outer facing of the tower.

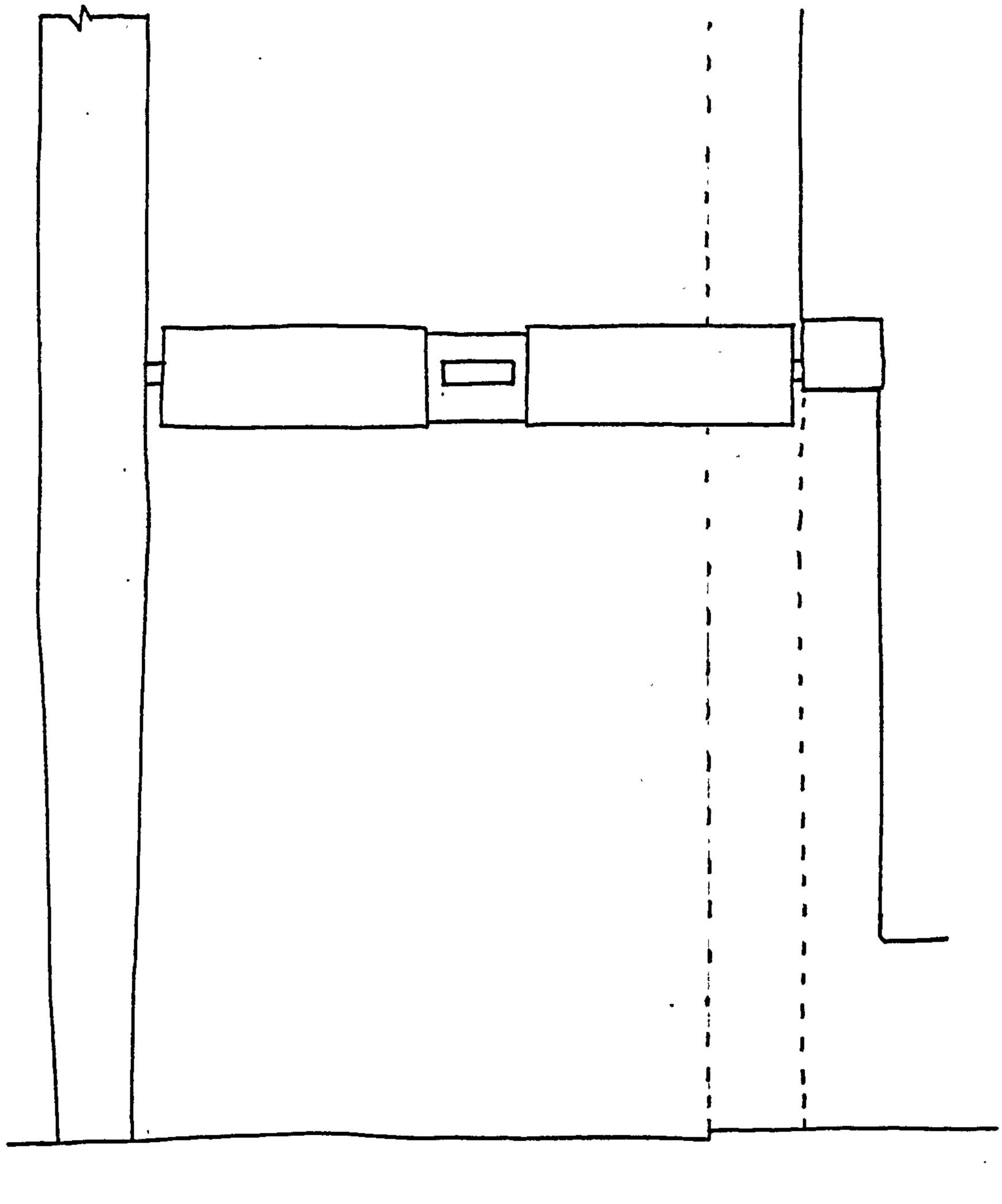
The construction of a tower involves the lifting of heavy materials to great heights, and there are references to the erection of cranes in early churchwardens' accounts at Dereham and Swaffham[1]. At Deopham it would appear that lifting gear, installed at the level of the first-floor chamber, was left in the tower after the completion of the fabric[2]. The gear consists of a cylindrical roller mounted at one end in the tower wall, and at the other end in a stout vertical post which is secured top and bottom to the second and first floors of the tower: there would have been a pulley arrangement in the centre of the tower and well above the level of the roller. The mechanical advantage of the machine would be about 1 : 10, allowing considerable weights to be lifted, and it is placed east of the centre of the tower to allow loads to be worked through the central traps in the tower floors. The Deopham lifting gear has much in common with the mediaeval windlasses in the towers at Salisbury Cathedral, Peterborough Cathedral and Tewkesbury Abbey[3]. The arrangement of the mortises for the spokes of the hand-wheel is said to indicate a date before the 16th century, from which early period only the three named examples of lifting gear are said to survive[4].

There appear always to have been two upper floors in the tower at Deopham, dividing it into three spaces, and there is evidence for the insertion of a light ceiling at one level. The ground-floor chamber at Deopham shows that there was formerly a ringers' gallery at the level of the cill of the west window: the blocked holes for the floor joists remain and there is evidence for a former doorway from the vice to the gallery. Rope-holes in the first floor of the tower show that the bells were formerly rung from below, and the reasons for putting the ringers on a gallery, rather than on the tower floor are discussed later[5].

1. See pp 303, 359. 2. See p. 293.
3. G. C. Backinsell. 'Mediaeval windlasses at Salisbury, Peterborough and Tewkesbury'. *South Wiltshire Archaeological Society Publications.* 1980.
4. *Ibid.* 5. See p. 334.

DEOPHAM, St Andrew. 1979.

Lifting gear on tower first floor
sketched at 1;20 approximately.

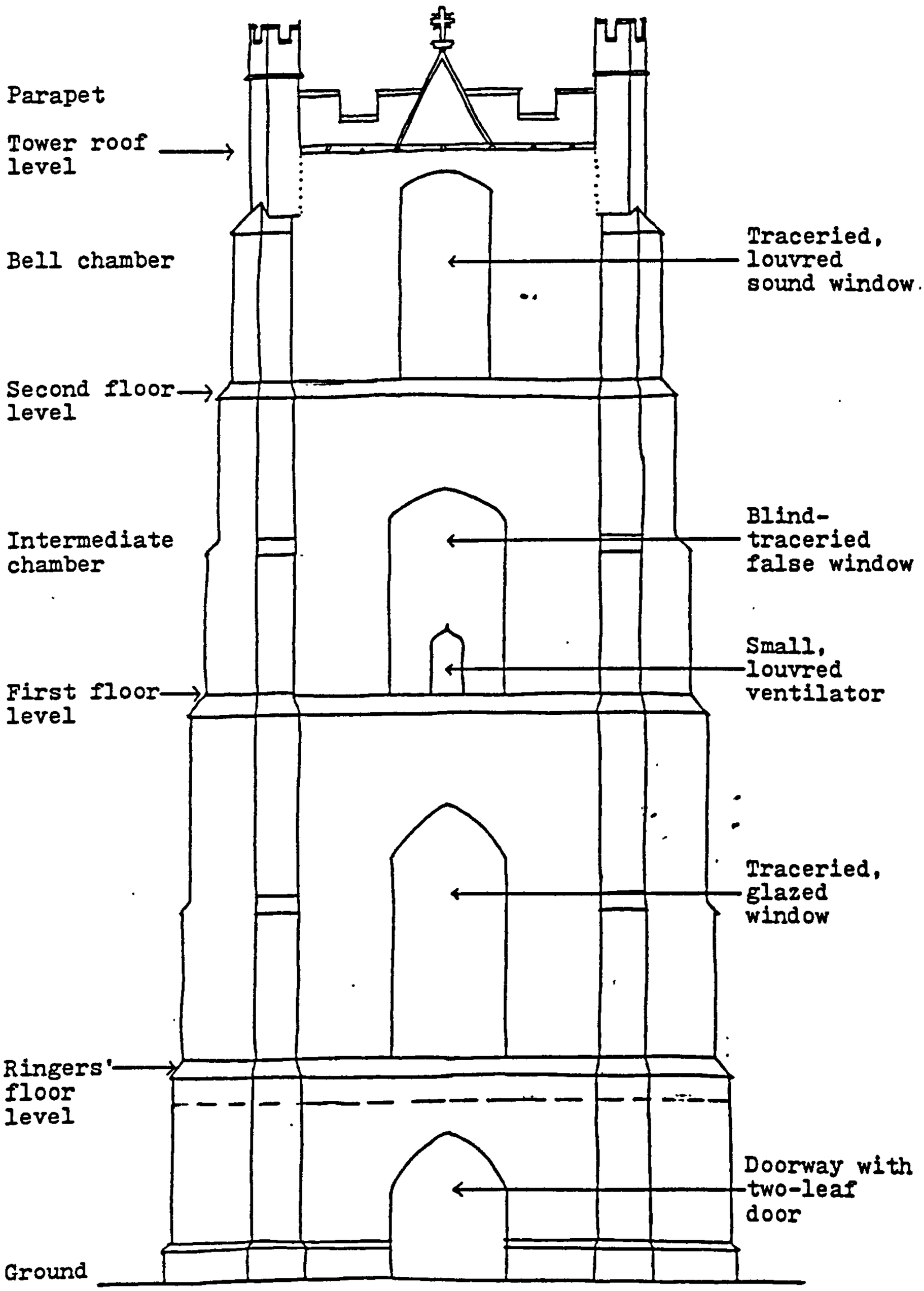


The first-floor chamber, access to which is by a vice with heavily-constructed contemporary doors, fitted with stout locks at the top and bottom, has been plastered internally and has at some time had a ceiling at a height of about 6 ft 6 inches (2 m): the ceiling appears to have been removed and the holes for the joists filled with plaster which in one place is dated 1678. There are small louvred openings, with rebates for internal shutters, on three sides of the chamber and in one corner, built into the thickness of the tower walls, there is a very heavily framed cupboard which was formerly fitted with two locks. Almost at floor level in the first-floor chamber there is also a small opening, closed by a wooden shutter, which looks through into the nave just below the pitch of the roof. Cautley, who seems to have an obsession with such features, describes the opening from the first-floor chamber through to the nave as a 'sanctus bell window', and he states that its purpose was to allow a ringer in the tower to ring the appropriate bell at a critical moment during the celebration of the Mass[1]. The gymnastics necessary to ring the bell while closely observing the celebration at the altar would, at Deopham and at other places, have been considerable, and there seems to be no reason to have rung the bell from the first floor when the ropes, in fact, fell to the lower level of the gallery[2]. It seems much more likely that the first-floor chamber at Deopham was used for the storage of valuables, and the security afforded by the doors at the top and bottom of the vice and, for smaller items, by the locked cupboard, would have been ideal for such a use. It might also have been the case that a sacristan was employed whose duties included sleeping in the tower chamber by night, when the window through to the church would have served a useful purpose[3].

The second-floor chamber is clearly designed to house bells, having large louvred openings with window-cills sloped to allow rain-water to drain away. The contemporary bell-frame, designed for four large bells, remains (although in a perilously dangerous state of decay), and has been adapted to take a light ring of five bells.

1. Cautley, p. 11.
2. The general removal of ringers from open galleries to first-floor chambers in towers dates from the rise of changeringing (EHM, Chapter 2.) when shorter bell-ropes gave very much better control over the movements of bells rung in full-circles, and the taking out of the ceiling (which was at a height where it would have impeded the movements of ringers) in the first-floor chamber at Deopham may well have marked the removal of the bell-ringers from the tower gallery to ring from a higher level in c. 1678.
3. Platt, p. 99, gives an instance at Tamworth where deacons were required to sleep in the church to safeguard the books and ornaments.

DIAGRAM OF DEOPHAM TOWER



FUND-RAISING FOR CHURCH FABRIC AND ORNAMENTS. 1462 onwards.

One of the few available local sources for an examination of the income for additions and repairs to the fabric and ornaments of a church is found in the East Dereham churchwardens' accounts[1]. Although very incomplete, there are a number of interesting sections from which an impression of the process may be gained, and the surviving documents are important because they give some idea of the proportions of income derived from various sources.

In the year 1462-1463, when there was no major expense other than the running costs of the church, amounting to the sum of £2-10-11 1/2, the year's income of £2-07-04 was derived from collections in church (£1-07-09 1/2), bequests (£0-14-04) and rents and farms (£0-06-02 1/2). When, however, a major campaign of improvement of the church fabric and fittings was under consideration, further sources of income were tapped. In 1467-1468, although collections in church amounted to no more than £1-09-03, bequests had risen dramatically to £2-18-01, and the churchwardens had accumulated the sum of £4-04-06 from the previous years accounts: rents and farms brought in small sums and the Guild of Our Lady's Light contributed the sum of £0-18-00. The main expenditure was on the roofing of the north aisle, accounting for £7-19-04 in that year, from which sum £2-15-10 was deducted for the sale of surplus timber and firewood. Over the following two years (1469-1471) bequests increased to £7-05-07, gatherings in church to £4-03-06, and the Plough Guild had contributed £0-17-08. There were special contributions, amounting to £2-10-02, towards a new font and, while rents and farms remained at the comparatively low figure of £0-06-03, it appears that the churchwardens received for the first time a fine on properties sold in the town, amounting to £1-19-06, a practice which continued at least to the end of the century. The levying of such a fine towards church fabric funds has a parallel in the Great Cressingham Manor Rolls, and it seems that such a source of income might not have been uncommon[2]. The moneys raised were spent on the new font, on the repair of the treasury, on laying a ground-sill in the church, presumably for benches, and on attention to vestments, books and other ornaments: the running expenses of the church were no more than £2-04-01 1/2.

1. Accounts 1419-1471, with many gaps. NRO., Phillips Mss, Box 5.
   Accounts 1478-1498, with many gaps. NRO., P 182 D.
2. H. W. Chandler, *Five Court Rolls of Great Cressingham in the County of Norfolk*, London, 1885, p. 69. In 1490 the Manor Court proposed a byelaw regulating the grazing of sheep within crofts belonging to the Lord's tenants under penalty of 6 s. 8 d., half to go to the Lord and half to the use of the church.

   See also Platt, pp. 90-91 for further instances.

There was a further fund-raising effort from c. 1485 onwards, apparently directed towards the recasting of a broken bell, and to major repairs on the tower. The accounts for 1485-1486 show an interesting trend away from a reliance on collections in church (which amounted to only £0-04-01 1/2) and bequests (amounting to £0-12-04). The amounts from rents and farms was about the same as in earlier years (totalling £1-07-08 1/2) while fines had risen to £2-09-00, but the most significant source for the total sum of £11-06-06 raised during that year was a total income of £6-13-04 from church-ales. The sum of £9-10-07 was handed on to the following churchwardens, who had by the end of the year raised £13-18-11, much of which was spent on the tower and bells. A further source of income was a levy for a burial inside the church, seen in the East Dereham accounts and noted elsewhere[1]. An exactly similar pattern is observed in an effort of 1490-1493 to raise funds to rebuild the chapel of St. Withburga, in the cemetery; when there were a number of specific offerings to the work, including quantities of limestone.

The lists of outstanding sums at the end of each year's accounts show the difficulties the churchwardens encountered in collecting payments due to them: not only is bad money recorded, but there are many instances of outstanding debts, such as bushells of grain or malt; cattle and peas.

At Swaffham, too, there is a good record of the provision of funds and materials for major building works at the church. In addition to the evidence of wills, which record bequests to the work of rebuilding the church and tower from 1485[2]; to the construction of the bell-frame between 1508 and 1513, and to the battlement of the steeple in 1529, there is a valuable record in the Black Book of Swaffham[3], as well as in the churchwardens' accounts covering the period 1505 - 1595[4]. The Black Book of Swaffham is dated and described on its title page by the following inscription:

> 'Navicula recta Ecclesie Sancti Petri de Swaffham Market facta in festo Exaltationis Anno Domini m° cccc° l° iiij° et regni regis Henrici vj^ti xxxiij° continens ut olim in archa Noe certa tristega et mansiunculas'.

1. See numerous contemporary wills for directions to pay the fee for burial inside the church building.
2. C&C.
3. Preserved at Swaffham Church. Copy at NRO., PD 52/473.
4. NRO., PD 52/71.

The book is divided into three sections which include a terrier of the church lands, an inventory of goods belonging to the church followed by a bede-roll of benefactors to the ornaments and fabric of the church, and an account of old and new legacies as well as a list of debts owing to the church. Immediately before the roll of benefactors is inserted a statement of the churchwardens' accounts for 1454 and a carefully detailed list of offerings and advances to the work of the steeple. It would appear that the Black Book, which had been made by the order of John Botwright in his 19th year as Rector of Swaffham[1], was intended as an account of the financial position of the church prior to a major building campaign, and that the bede-roll, which was to be read annually on Whitsunday[2] at a requiem mass for departed benefactors, was an encouragement to give generously. Early entries in the bede-roll refer to those who had given sums of money or materials to work on the 'old' church and steeple and later entries show that the work on the 'new' church and steeple was well advanced by the 1480's. Robert Payn whose will was proved on 25 September 1487[3], is commemorated in the bede-roll as follows:

> 'also for the soule of Robert Payne the which gaff a cope of whyth damask and did pathe the mid aley of the old chirche with marbyll and did also make a part of the old chirche with all the chargis from the nether crose alley to the stepil and the rode awtyr and the chapell of the trynyte and gaff xx tune of frestone to the stepull and also in money to the edyfyeng of the stepyll xx marcas'.

It is clear that the work on the church was proceeding during Robert Payn's lifetime and the entry for Simon Blake, whose will was proved on 14 September 1489[4], contains a suggestion that the new work was necessitated by the partial collapse of the old church:

> 'also for the sowles of Symond blake, gentylman and Jane his wyffe which did expend in pathyng with marbyll of the crosse alley before the chaunsell dore in reparation of the Organs broken with the Falling of the Chirche with glasyng of a window in the clarestory and in findyng of a fremason to the makyng of the church by the space of a yere and in money geven to the makyng of the newe stepyll xl li'.

1. Black Book of Swaffham (henceforth BBS.), fo 1.
2. BBS., fo. 22.
3. NRO., NCC. Typpes 5.
4. NRO., NCC. Typpes 20.

During the last twenty years of the 15th century large sums of money were given towards the building of the new steeple, and gifts of freestone and lime suggest that the work was proceeding.

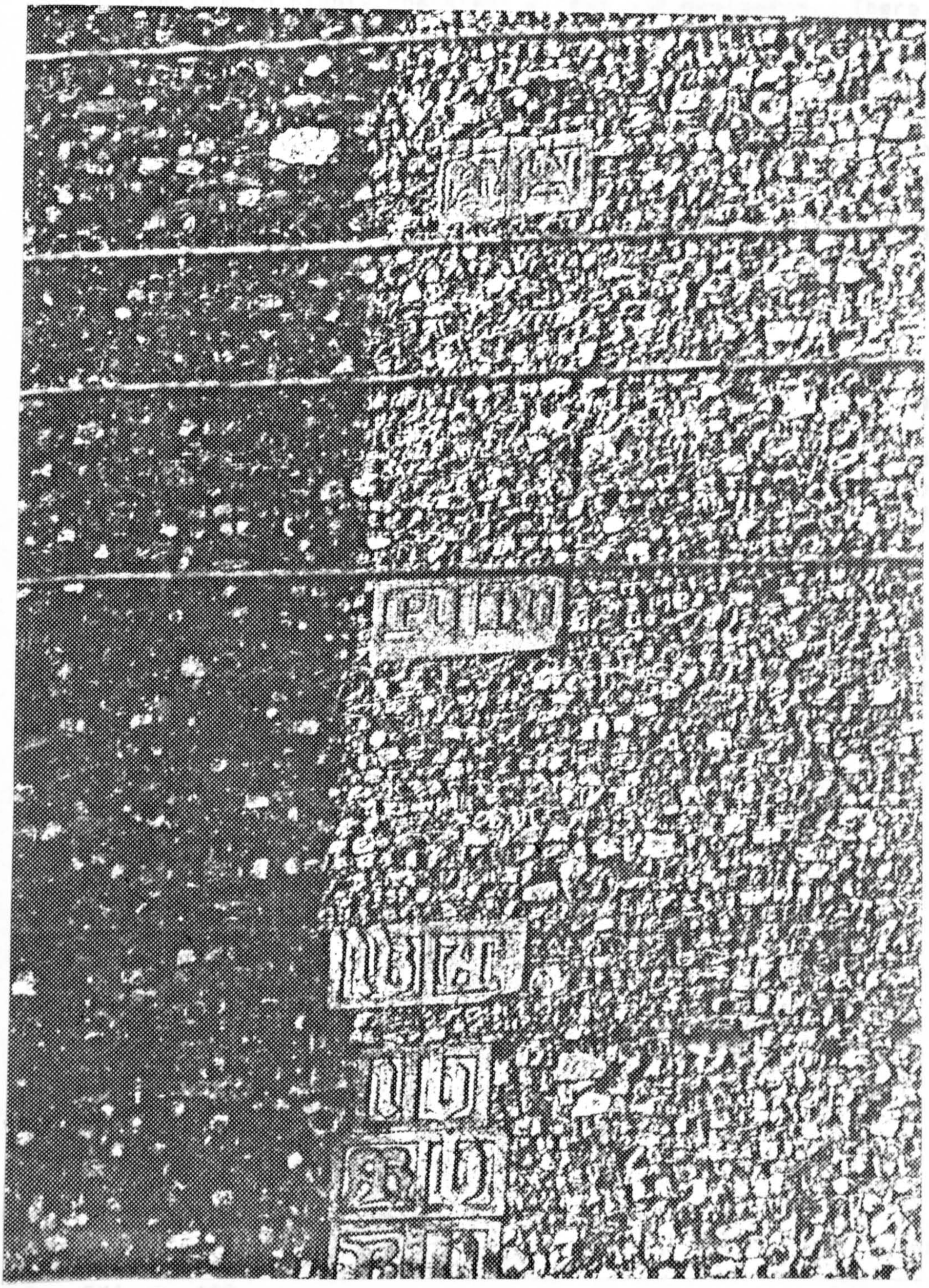
There are, no doubt, many instances where the money required to build a tower, or to provide or hang bells, was the result of personal generosity. A number of bells have the names of donors inscribed on them[1], and stone inscriptions on towers recording gifts are not uncommon. The tower at West Tofts[2] has, on the base course, the inscription:

> 'Alle the begyners of the werke Andro Hewke, John Rolffe, John Olyver and Amy hys wyf, Wylyam Olyver, Wylyam Rolff, John Roff, John Hewke, Robert Rolff Syr John Wyse Parson'.

At North Lopham the progress of the tower appears to have been marked at vertical intervals by stones bearing the initials of sponsors[3]. The provision of loans by wealthy patrons was also of considerable assistance[4].

Although the business of Patrons and Rectors was with the chancel of the church, and with provision for the cure of souls, there were, doubtless, many instances of their support for other parts of the church. The Abbot of Westminster gave money towards a new bell-frame at Swaffham[5], and Norwich Cathedral Priory, the impropriate Rector of a number of churches, is recorded as subscribing to towers at Barford and Norwich St. Peter Parmentergate, as well as to bells at Norwich St. Etheldreda and Norwich St. John de Sepulchre[6]: in the latter case the gifts appear to have been nominal rather than encouraging. In most local instances, such donors were careful to put on record the fact that theirs were gifts of goodwill rather than the fulfilling of obligations to the fabric of the church[7].

1. For example bells at Bradeston (CBN., p.105) and Martham (CBN., p. 161).
2. Visited 1979.
3. See p. 300.
4. BBS., *passim*.
5. BBS., fo. 54d.
6. NRO., DCN., Obedientiary Rolls.
   960 (1313) Norwich St. Peter Parmentergate.
   347 (1343) Barford.
   964 (1345) Norwich St. John de Sepulchre.
   801 (1362) Norwich St. Etheldreda.
7. At Swaffham, for example, the churchwardens' accounts record: 'Recevyd by the goode will of the Abbot of Westminster towarde the reparation of the belle frame ...'.



Carved stones on the south side of the tower.

A much more likely benefit to be derived by a church from association with influential laity through patronage, or with an important monastic house through appropriation, was in the possibility of being put in touch with highly competent masons and designers. There is little doubt that the parishioners of Hardley used the same designer and masons for the reconstruction of the nave of their church at about the same time as St. Giles Hospital fulfilled its rectorial obligation to rebuild the chancel[1]. At Martham, too, (where it is known that Robert Everard, who is thought to have been responsible for much important work in Norwich including the spire and some of the vaulting at the Cathedral[2], was employed to rebuild the chancel between 1456 and 1466) it would appear that the same designer and masons were employed at about the same time to complete a sumptuous reconstruction of the church and tower[3].

The interest taken in the church fabric by the guilds was understandable in that their main purpose concerned the parishioners rather than the clergy. Their provision of galleries in the towers at Worstead and Cawston has been noted elsewhere[4], and an inscription on a bell shows that it was provided by the Corpus Christi Guild at Oxburgh for their parish church[5]. The fund-raising activities of both the Plough Guild and the Guild of St. Peter were directed towards the tower and bells at Swaffham[6].

It is tempting to assume, because the documentary evidence has survived in much greater quantity, that bequests were the principal source of funds for church fabric and ornaments: the East Dereham and Swaffham documents, however, show that bequests were an important element in a much wider range of income, of which direct giving and the organisation of church ales were sometimes more effective.

1. P. Cattermole, 'Hardley Church', *Norfolk Archaeological Rescue Group News*, August 1983, p. 13.
2. EMA, p. 102.
3. P. Cattermole and S. Cotton, 'Martham Church Redated', *Norfolk Archaeological Rescue Group News*, June 1983, p. 20.
4. See p. 337.
5. On a bell now at Salhouse, visited 1980:
   + Orate Pro Aiabus Fr'm & Soror' Gilde Corp'is Xp'i De Oxeburgh Anno Dni' m^m^ cccc^m^ iiii^xx^ i.
6. SCW., *passim*.

THE CONSTRUCTION OF A CHURCH TOWER.

The best locally-available contemporary account of the building of a church tower is found in the churchwardens' accounts at Swaffham[1], and many parallels for towers in south-east Norfolk may be drawn from this source.

There is no mention of major building work in the first complete set of accounts in the Swaffham churchwardens' book, which is for a two-year period ending in Advent 1506, and in which the running costs of the church amounted to £4-15-04 1/2. The construction of the upper stage of the steeple took place during the five-year period from Advent 1506 to Advent 1511, and the accounts are sufficiently detailed to allow the progress of the work to be followed. Among the receipts returned at Advent 1507 is one for the sale of the thatch from the steeple, suggesting the removal of a temporary roof, and the building account[2] is headed:

> 'Thes be the payments which wher payed by the hands of John Oxburgh and John Newell church revys of Swaffham market to the workmen that went aboute the stepull Anno domini millesimo quinquentesimo septimo et anno regni regis Henrici septimi post conquestum anglie vicesimo secundo'.

The name of the mason responsible for the work appears thus in the first entry[3]:

> 'In primis to Gyles the fremason for hys costys and hys reward whan he cam to see the warke xij d.'.

It seems that Gyles did not feel able to undertake the contract without further professional assistance, which he sought from Norwich[4]:

> 'Payed to Gyles the Fremason for his labour rydyng to Norwich to speke to a nodther mason x d.'.

The wage account for a typical week[5] is of some interest:

Gyles the freemason and his apprentice	4	s.	
Antell the freemason and his servant	5	s.	
Simon Coo's wife for boarding the freemasons	3	s.	4 d.
Nicholas the mason	2	s.	3 d.
Nicholas Mason for his servant's work	1	s.	8 d.
Robert Meke, labourer 4 1/2 days	1	s.	3 1/2 d
Richard Newell, labourer 4 1/2 days	1	s.	3 1/2 d.
Robert Honyngham, labourer 4 days	1	s.	2 d.
Richard Newman, labourer 4 1/2 days	1	s.	3 1/2 d.
Jaffery Bryan for 4 1/2 days	1	s.	1 1/2 d.
John Smyth, labourer 4 1/2 days	1	s.	1 1/2 d.
John Bryan, clerke, 2 days			6 d.

The total wage bill for the week was £1-04-00 1/2.

1. NRO., PD 52/71. (Henceforth SCW.). 2. SCW., fo. 10d.
3. SCW., fo. 10d. 4. SCW., fo. 14. 5. SCW., fo. 14.

It appears that although Gyles's name heads the list of those employed on the tower, Antell the freemason (who is probably identical with Robert Antell[1] of Norwich) was receiving higher wages. Nicholas Mason, probably a rough mason, with his servant, also earned as much as Gyles. Throughout the accounts, the work-force does not seem to have varied much from the total of three masons with their servants, six labourers and a clerk of the works. As would be expected, there was a masons' lodge which Jaffery Bryan was paid for keeping clean.

Equipment bought before Advent 1507 included hurdles for scaffolding and a hoist with a cable, as well as the expected baskets, shovels and smaller tools. The limestone which was used for the facing of the tower was brought to Brandon by river, unloaded there and carted by road to Swaffham[2]. The first season's work was concluded by thatching the new masonry, and the total cost for the period was £33-14-10 1/2. The second season's work, accounted in Advent 1508 at a cost of £35-01-07 1/2, was similar, and a contract was made for the construction of the tower roof: Antell is no longer mentioned in the accounts, and his place appears to have been taken by Olyver the freemason[3]. A total expenditure of £18-12-05 1/2 is recorded in Advent 1509, and a further freemason, John Patrick, appears during the season of building. Preparations for the new roof are suggested by the purchase of lead, and the finishing touches to the tower are suggested by the purchase of a pattern for a weathercock from a carver[4]. The season ending in Advent 1510 was the most costly of all, with an expenditure of £50-03-10 1/2. Large quantities of lead were purchased at Brandon, and moulds for casting the sheets were made. The top of the steeple was to be crowned with a leaded lantern, the structure of which was brought to Swaffham from Shipdham[5], and the payment for the leading of the lantern, made on the feast of St. Peter-ad-Vincula (1 August) 1511, would seem to mark the completion of the structural work. The total expenditure for the year was £29-12-04 1/2[6]. There is no major expenditure on building in the accounts for the periods ending at Advent 1512 and 1513, and the total of general expenses records items relating to the regular maintenance of bells and ringing fittings. A payment for thatching the bell-house[7] suggests that, during the progress of the tower work, the bells were installed in a temporary bell-cage at ground level until they could be rehung in the tower, and it appears that the tower, structurally complete by August 1511, was left to settle before further work, including the rehanging of the bells, was undertaken.

1. SCW., fo. 14d.
2. SCW., fo. 16d.
3. SCW., fo. 24.
4. SCW., fos. 30d. and 32.
5. SCW., fo. 39.
6. SCW., fo. 44.
7. SCW., fo. 52, and see p. 304.

WOOD RISING

Temporary bell-house, erected following the collapse of the tower.

Timber for the new bell-frame in the tower was collected in the spring of 1514, and the contract for making the bell-frame was completed in August 1516[1]. The bells had been removed from their temporary accomodation by 1517, when John Owold paid the sum of 16 d. for the 'old bellehowse and the frame'[2]. The glazing of the 'steeple window', doubtless the great west window, had been undertaken in 1517[3], and the works to the steeple must have been considered virtually complete in 1519[4] when the following entry appears in the accounts:

'Receyvyd of Petur Gannock for the masonys loge that stode in the churchyard and for odther olde tymber v s. ix d.'.

During the same period a new bell weighing 28 cwt 12 lb was bought from Thomas Church of Bury St. Edmunds, bringing the total number to five[5], and the accounts for the two-year period 1519 -1521 record the hallowing of the bells in the new tower[6].

'Payd when the bellys wher halywed for sundry expences xvj d.
For iij yerdds of mynster whan the bellys wher halowyd ix d.'.

The accounts for 1533-1534 record the employment of a freemason called Cobbe[7], who was paid the sum of £2-06-00 to build the parapet from materials provided locally.

From the above, it is clear that the lower part of the tower was completed at about the same time as the body of the church, and that the building of the bell-stage of the tower, above the level of the church roof, was left until some years later. The incomplete tower had been given a temporary roof of thatch, and the bells had been hung in a thatched bell-house in the churchyard so that ringing could continue while the construction of the tower was under way. A similar bell-house remains in the churchyard at Wood Rising[8], where the bells were hung after the collapse of the tower. The construction and roofing of the upper part of the Swaffham tower occupied five seasons of building, and when one considers the size of the tower, this compares well with the estimated time of ten years given in a contract of 1487/1488[9] for the construction of the 60 ft high tower at Helmingham. As at Helmingham, the Swaffham churchwardens had provided the necessary materials and building equipment for the work. There are other instances, however, where the masons' contract required them to provide building materials and equipment as part of the agreement; the Walberswick contract of 1425 is an example[10]. The Swaffham churchwardens had provided a timber-framed and thatched lodge in the churchyard for the masons (as the Walberswick contract had also required).

1. SCW., fo. 59. 2. SCW., fo. 64. 3. SCW., fo. 63d.
4. SCW., fo. 68. 5. SCW., fo. 72d. 6. SCW., fo. 75d.
7. SCW., fo. 102. 8. See p. 304.
9. L. F. Salzmann, *Building in England down to 1540*, London, 1952, pp. 547-549.
10. C. Chitty; 'Kessingland and Walberswick church towers', *Proceedings of the Suffolk Institute of Archaeology*, 1950, p 169.

The Helmingham contract stipulates that bells should not be hung in the tower until a space of four years should have elapsed from the completion of the building work. Similar caution prevailed at Swaffham where the bell-frame was not started until three years after the roofing of the tower, and where the bells were not hung until at least six years after the tower had been completed. The Swaffham tower as left in 1511 lacked a parapet, and it was not until twenty years later that this was built.

Although the name of Gyles, the mason mentioned at the start of the work at Swaffham in 1507, is not traced elsewhere[1], at least two of the freemasons mentioned in the accounts have been tentatively identified in other places. Robert Antell's name appears in the fabric accounts for various departments at Norwich Cathedral Priory, as well as at King's College Cambridge in 1508[2], and there is mention of a Robert Cobb in various accounts at Cambridge from 1508 through to 1537[3].

In many of the towers examined in south-Norfolk, there is structural evidence for building campaigns which extended over long periods. In some cases, particularly where a church had a short round tower, a new belfry stage was added to a very much older tower[4]; in other cases, a tower which is of relatively uniform design shows distinct differences in methods of construction and materials at different levels. The great tower at Redenhall, which is comparable in size to the Swaffham tower, is mentioned as new in wills of 1469, and was still under construction in 1498. A new tenor bell was cast in 1514, and the parapet is dated to c. 1518 by the rebus of the then Rector[5]. A tower of average size for a small village, at Carleton St Peter, was described as 'new' in wills of 1503, but was still without its parapet in 1537, and it appears from structural details that the first phase of work ended at the level of the nave roof, above which there is a distinct change in materials and details[6]. Although much more recent, it is worth examining the building accounts for the brick tower at Denton to gain some idea of the time involved in the completion of a tower in a continuous campaign. The ground was cleared in 1702, and the foundations laid in the following year: six seasons of building are recorded in the extant accounts, and the tower was complete by 1714[7]. It would appear that if funds and materials were available a typical village church tower, say 50 ft (16 m) high and 10 ft (3.5 m) square, could be completed in eight to ten years; while the building of a small additional stage to an existing tower might be accomplished in one or two seasons.

1. EMA.; p. 120.
2. EMA., p. 21.
3. EMA., p. 68.
4. See, for example, Shelton (p.126), Tasburgh (p. 138), Alburgh (p. 188), etc.
5. C&C.
6. See p. 251.
7. See p. 193.

Similarity of design suggests a common source of inspiration for many of the late 14th-century and 15th-century towers in south Norfolk. In some cases this might well be attributable to imitation of existing examples, or the copying of details, as is a clear direction in the contracts for both Walberswick and Helmingham[1] towers. It is also very probable that a number of masons had extensive practices, supplying designs as well as prefabricated details[2].

It might appear that a positive method for identifying the work of a particular group of masons, and through them a possible designer of a building, would be through the careful measurement and recording of items such as mouldings, and the exact forms of traceries, as well as other details which could have been produced from common patterns. Such a detailed analysis, in conjunction with the study of wills and other documents, would have some value but is unlikely to give a definite indication of the master mason, or architect, involved in the design of particular towers. For a 1975 thesis, Dr. Richard Fawcett carried out such an exercise on the more accessible parts of a number of church fabrics[3]. His findings suggested the activities of groups of masons working together on a number of different churches, but it is evident that particular moulding patterns and tracery designs, for example, outlived their originators. As an example, similar mouldings suggested to him the attribution to a single mason of work at Hilborough church and Norwich Cathedral Erpingham Gateway, for which documentary sources suggest dates which are almost 100 years apart[4]. It might, perhaps, be more acceptable in the absence of visible masons' marks, to attempt to attribute the designs of towers to particular schools rather than to particular masons. The very little documentary evidence for specific building campaigns in Norfolk may lead to tentative suggestions about possible sources of design, but anything like a definite attribution of work at the particular churches surveyed to named masons or architects is, at present, impossible.

1. See p. 305, notes 9 and 10.
2. See p. 301. note 1, and p. 319.
3. R. Fawcett, *Later Gothic Architecture in Norfolk*, University of East Anglia Thesis, 1975.
4. R. Fawcett, *Op. Cit.*, pp. 326 et seq. James Woderove is suggested as the master mason responsible for both the Erpingham Gate, Norwich (c. 1426 - see G. Thurlow, *Norwich Cathedral*, Norwich, 1972, p. 48) and Hilborough porch (c. 1516 - see C&C).

ANALYSIS OF DESIGN, USE AND DETAIL.

ANALYSIS OF TOWERS BY TYPE

98 of the 103 churches surveyed have towers, 2 churches seem never to have had towers and 3 churches formerly had towers which have not been rebuilt after collapsing.

	TOTAL	POST-REF.	PRE-REF.
Square west towers	59	9	50
Square south-east towers	1	0	1
Square central towers	3	0	3
Round towers	22	0	22
Round tower with octagonal belfry	12	2	10
Octagonal towers	1	0	1
Bell-cote	5	1	4
TOTAL	103	12	91

DATES FOR CHURCH TOWERS.

Most of the printed material[1] relating to churches in south-east Norfolk relies on stylistic evidence for dating pre-Reformation church fabric and there appears to be no more satisfactory method in many cases. 17th-century and later fabric is generally easier to date, since stone inscriptions are relatively common and there are numerous surviving faculty petitions, as well as contemporary churchwardens' accounts, available. About one half of the pre-Reformation towers surveyed can be dated, to within a decade or so, by considering bequests to church fabric and by comparison with the standing buildings. The dates suggested for the towers are, of course, estimates: in most cases, the work of construction would have been spread over a period of years, and it is rarely possible to establish at what stage in the work a bequest was made. Some tower-building campaigns extended over long periods, for example, Bradfield ('new' in 1451, battlemented in 1514[2]), Carleton St. Peter ('new' in 1503, battlemented in 1537[3]), East Dereham (a large detached tower not started in 1502, 'now building' in 1516; 'finishing' in 1524[4]), North Repps ('new' in 1476, battlemented in 1526[5]): others, presumably where funds were more readily available, seem to have been completed in a shorter time[6]. It seems reasonable, therefore, to take 20 years as an average period, and where a tower has been dated by a single bequest, it must be assumed that it is equally likely to have been constructed during a period on either side of the given date.

1. See Bibliography for works by Bryant, Cautley, Cox, Messent and Pevsner especially. 2. C&C. 3. *Ibid*.
4. *Ibid*. 5. *Ibid*. 6. See p. 305 for example.

In the following analysis primary dates are assigned (and the entry underlined) where documentary sources relating to work on a tower appear to refer to a standing tower, or part of a tower: two 17th-century towers and one later tower are assigned a primary date on the evidence of inscribed stones, and printed sources are regarded as reliable for the Victorian towers at Hapton, Framingham Pigot and Kirby Bedon. Secondary dates are assigned (and the entry not underlined) where documents refer to work on bells, or on other parts of a church, but which, in conjunction with a study of the tower, strongly suggest a particular date for the structure.

There are no footnotes in this section, and references should be sought in the surveys of individual churches.

ALBURGH. There was a bequest in 1464 to the dedication of the church, and in 1504 to the buttressing of the tower.
It appears that the lower part of the tower, to the level of the second floor, was complete by c. 1464, and that the tower was strengthened and increased in height in c. 1504.

ALDEBY. A date stone records the rebuilding of the tower in 1633. There was a bequest to the tower in 1377.
The tower appears to be a reconstruction of 1633 using older materials.

ARMINGHALL. There was a bequest in 1473.
The tower appears to have been built in a single campaign in c. 1473.

ASHWELLTHORPE. There is a contract for roofing the new church in 1398.
The upper stage of the tower appears to be of the last quarter of the 14th century.

BEDINGHAM. There were bequests to the church fabric in 1499, to a bell in 1513, and to the completion of the church in 1518 and 1520.
The octagonal belfry is probably of c. 1500 - c. 1515.

BIXLEY. There were bequests in 1526 and 1538.
The lower part of a tower, which was clearly intended to be higher, appears to have been built in a single campaign in the 1530's.

BRAMERTON. There were bequests to bells in 1458 and to the reconstruction of the church in 1463.
It appears that the church and tower were reconstructed in the 1460's.

BRESSINGHAM. There was a bequest in 1431.
The tower was probably under construction in c. 1431, and heraldry suggests that it was complete by about 1450.

BROCKDISH. There are date stones for 1864.

BROOKE. There was a bequest in 1466.
The upper stage of the round tower appears to be of c. 1466.

BROOME. There was a bequest in 1431.
The tower appears to have been built in a single campaign in c. 1431.

BUNWELL. There were bequests to bells in 1466, to leading the church in 1473, and to work on the tower between 1499 and 1508.
It appears that the lower part of the tower was complete by c. 1473 and that the bell-chamber was added in the early 16th century.

BURGH ST. PETER. A Faculty petition of 1794 refers to the building of a new tower, and this is confirmed by an entry in the parish register.
The brick part of the tower, above the flint base, appears to be of c. 1794.

CAISTOR BY NORWICH. There were bequests in 1526 and 1533 to the bellframe.
The upper part of the tower was probably completed in c. 1530.

CARLETON ST. PETER. There were bequests in the period 1503-1537.
It appears that the tower was constructed in two phases: to the level of the church roof by c. 1517, and the upper stage added by c. 1537.

CLAXTON. There were bequests to the bells in 1505.
The considerable use of brick, and the constructional details, suggest that a completion date of c. 1505 is reasonable.

DENTON. The churchwardens' accounts, taken in conjunction with the Archdeacon's Visitation returns, show that a brick tower was built between 1703 and 1714.
The lower stages of the tower, to the level of the bell-chamber, appear to be the 18th-century tower.

ELLINGHAM. There was a bequest in 1447.
The upper part of the tower appears to be of c. 1447.

FORNCETT ST. MARY. There was a bequest in 1432.
The tower was built in two phases to either of which the 1432 bequest could refer.

FRAMINGHAM PIGOT. The church was completely rebuilt in 1859, including the tower and spire.

FRITTON. There were bequests to raising the church walls in 1502 and to a new roof in 1510.
A suggested date for the octagonal belfry is c. 1550.

FUNDENHALL. There was a bequest in 1418.
The upper part of the tower appears to be of c. 1418, though severely restored in 1868-1869.

GELDESTON. There was a faculty petition in 1814 to rebuild the upper part of the tower.
The upper part of the tower appears to be of c. 1814.

GILLINGHAM. There was a bequest to a new parapet in 1472.
There is no longer a parapet, but old engravings illustrate it.

HAPTON. A new tower was built in 1847.

HARDLEY. There were bequests in the period 1501-1504.
It appears that the upper part of the round tower was constructed in c. 1501 - c. 1504.

HECKINGHAM. There were bequests in 1487 and 1507.
The octagonal part of the tower was built in two distinct campaigns, probably corresponding approximately to the dates 1487 and 1507.

HEDENHAM. There was a bequest in 1417.
The tower appears to have been built in a single campaign in c. 1417.

HOWE. There was a bequest in 1417.
The upper part of the round tower appears to be of c. 1417.

KIRBY BEDON. The church and tower were rebuilt between 1876 and 1885.

KIRSTEAD. The rebuilding of the church was completed in 1864.

LANGLEY. There was a bequest in 1528.
The bequest probably refers to the insertion of a west window in an older tower.

LODDON. There were bequests to the tower in 1464 and 1487, and to the parapet in the period 1501-1504.
The tower appears to have been built in a single campaign during the second half of the 15th century, and to have been completed in c. 1501 - c. 1504.

MORNINGTHORPE. There was a bequest in 1504.
The upper part of the round tower appears to date from c. 1504.

MOULTON, GREAT. The churchwardens' accounts record the construction of a 'shead' for the bell in 1762.
The existing tower appears to be that constructed in 1762.

NEEDHAM. There was a bequest in 1464.
The octagonal belfry appears to be of c. 1464.

NORTON SUBCOURSE. There are contracts for roofing the church and chancel in 1319.
The upper part of the tower appears to be early-14th-century.

PULHAM MARKET. There was a bequest to the bells in 1438.
The strong resemblance to dated towers at Occold (Suffolk) and Bressingham suggests that the tower was complete by c. 1438.

REDENHALL. There were bequests from 1469, when the tower was called new, through to 1498; and to a new tenor bell in 1514.
It appears that work on the upper part of the tower was started in c. 1469 and that it was complete except for the parapet by 1514; one of the pinnacles has the inscribed name of a Rector instituted in 1518.

ROYDON. The upper part of the tower was completed in 1859.

RUSHALL. There was a bequest in 1474.
The octagonal belfry appears to date from c. 1474.

SHELTON. There were bequests in 1387 and 1460.
The tower appears to have been built in two campaigns, and dates of c. 1387 for the lower part with c. 1460 for the parts of the tower above the first floor level are probable.

SHIMPLING. There was a bequest to the bells in 1466.
From its design and construction the octagonal belfry appears to have been completed in about 1466.

SHOTESHAM ST. MARY. There was a bequest in 1533.
The tower appears to have been built in a single campaign in c. 1533.

STRATTON ST. MICHAEL. There was a bequest to a new tower in 1485.
The remaining part of the tower appears to be of c. 1485.

SURLINGHAM. There were bequests in 1458 and 1466.
The octagonal belfry appears to be of c. 1458-1466.

TACOLNESTONE. There was a bequest in 1462
The upper part of the tower appears to date from c. 1462.

TASBURGH. There was a bequest in 1385.
The upper part of the round tower appears to date from c. 1385.

THARSTON. There was a bequest to the tower in 1492, and to the new tenor bell in 1505.
It appears that the tower was built in a single campaign from c. 1492, and that it was finished by c. 1505.

THORPE ABBOTS. There was a bequest in 1503.
The octagonal belfry appears to be of c. 1503.

THURTON. There were bequests to the tower and bells in 1514.
It appears that the tower was built in a single campaign in c. 1514.

TIBENHAM. There was a bequest in 1437 to the making of the new bells.
A date of c. 1447 for the completion of the tower, which appears to have been built in a single campaign, seems reasonable.

TIVETSHALL ST. MARGARET. There was a bequest in 1457.
The tower appears to have been built in a single campaign in c. 1457.

TOFT MONKS. There was a bequest in 1464 to the tower and bells, and in 1470 to the bells.
The octagonal recasing and extension of the older round tower probably dates from the late 1460's and early 1470's: it appears to have been done in a single campaign.

TOPCROFT. There was a bequest to a new window in the tower in 1435, and to bells in 1437.
The west window appears to be an insertion of c. 1435, and the upper stage of the octagonal belfry is probably contemporary.

WHEATACRE. There was a bequest in 1522.
The tower appears to have been built in a single campaign in c. 1522.

YELVERTON. There are date stones in the tower for 1673 and 1674.
The tower appears to have been built between c. 1670 and c. 1678.

STYLISTIC DATING FOR ROUND TOWERS.

The round towers present a particular dating problem which has been considered by a number of researchers in the field: more or less tight dating[1] has been suggested by some authors; while others have been less dogmatic. Munro Cautley[2] observed that the majority of these round towers dated from the Norman period, and that a certain number belonged to the 9th and 10th centuries. He condidered the following towers in the area surveyed to be Anglo-Saxon:

Aslacton, Forncett St. Peter, Gissing, Haddiscoe, Howe, Kirby Cane, Morningthorpe, Norton Subcourse, Tasburgh, Thorpe Abbots, Wacton.

C. J. W. Messent[3] states that most of these towers were built during the period A. D. 1000 to A.D. 1150, during the Saxon, Saxo-Norman and Norman periods, and his dating of various towers is as follows:

Aslacton - c. 870; Bedingham - Norman. Brooke - 'most of this tower is Saxo-Norman'. Denton - partly Norman. Forncett St. Peter - pre-Conquest. Framingham Earl - Norman. Fritton - Norman. Geldeston - Norman with 13th century belfry. Gissing - 'very early'. Haddiscoe - 'definite Saxon date'. Hales - Norman. Hardley - Norman. Hardwick - Norman. Heckingham - Norman. Hellington - Norman. Howe - early Saxon. Kirby Cane - pre-Conquest. Morningthorpe - pre-Conquest. Needham - Norman. Norton Subcourse - Saxon. Poringland - Norman. Raveningham - Norman with late 13th century belfry. Roydon - Norman with late 14th century top[4]. Rushall - Norman. Seething - Saxo-Norman. Shimpling - Norman with early 14th century belfry. Stockton - early Norman. Long Stratton - Norman. Surlingham - undated. Tasburgh - Saxo-Norman. Thorpe Abbots - Saxo-Norman. Thorpe next Haddiscoe - Saxon with Norman belfry. Topcroft - Norman. Wacton - pre-Conquest. Woodton - nothing earlier than Norman.

Pevsner[5], considering a wider area than that surveyed, says:

> 'Of these round towers the majority is no doubt Norman ... there are good arguments in favour of an Anglo-Saxon dating in about twenty cases',

and he lists the following Anglo-Saxon towers:

1. The most recently published material on the subject by W. J. Goode, *East Anglian Round Towers and their Churches*, Lowestoft, 1982, is very definite in its attribution of towers to particular periods of building but relies on a number of assumptions which may not be reliable: dates from this source have not been used.
2. Cautley. p. 2.
3. C. J. W. Messent, *The Round Towers to English Parish Churches*, Norwich, 1958, p. xxi.
4. *Sic.* *Ibid*, p. 171, but see p. 175.
5. Pevsner, p. 25.

Aslacton, Forncett St. Peter,
Gissing (?), Haddiscoe (overlap), Howe, Kirby Cane, Rushall (?),
Tasburgh, Thorpe next Haddiscoe, Hales.

The following comment, which seems the most pertinent, is made by E. A. Fisher[1]:

'It is difficult to justify any strict separations of these towers into groups. They are so alike in general, and often in specific, characteristics that the phrase 'sui generis' can be applied appropriately to them. They can be studied only as a group, regardless of chronology. To chose a few which are supposed to be pre-Conquest, either wholly or in part, often on unconvincing grounds, is to say the least arbitrary, and perhaps not really meaningful'.

In the descriptions of individual churches round towers have been described in some detail, and the attribution of early dates has been made on the principles set out by Taylor and Taylor for the identification of Anglo-Saxon towers[2]: their list is as follows:

Aslacton, Forncett St. Peter. Gissing, Haddiscoe, Hales, Howe, Kirby Cane, Morningthorpe, Tasburgh, Thorpe next Haddiscoe.

A few towers not mentioned in their list have been included as Anglo-Saxon on consideration of details noticed inside towers to which they may not have had access. Later round towers have been identified by the more or less sophisticated techniques of construction and design: this method appears to be of some value, but does not pretend to great accuracy. Almost all of the round towers examined show signs of major additions to the original structure. Only those at Aslacton, Forncett St. Peter, Gissing, Haddiscoe and Hales seem to have remained at their original heights, although later parapets have been added to all those towers except for Gissing and Hales.

1. E. A. Fisher, *The Greater Anglo-Saxon Churches*, London, 1962, p. 320.
2. H. M. and J. Taylor, *Anglo-Saxon Architecture*, Cambridge, 1980. pp. 776, 800, 839, 943 for example.

BUILDING MATERIALS.

The materials most commonly used in the construction of towers in south-east Norfolk are flint, limestone and brick, bound together with lime mortar.

Flint is found in the beds of chalk which lie beneath most of the region surveyed: the only part where chalk is not immediately available is in the neck of land between the rivers Yare and Chet to the east of Surlingham[1]. It appears in nodules of varying size and colour depending on its location. In most parishes there were, until the early 19th century inclosures, pits from which parishioners might take available building materials such as flint and sand[2], but in cases where large flints, or flints of a particular colour, were required, it was sometimes necessary to search further afield[3].

The chalk provided a ready source for the making of lime, and lime-kilns were situated in a large number of villages[4]. There was also a flourishing trade in quicklime between Norwich merchants and builders working in various parts of Norfolk and Suffolk where there was no underlying chalk[5].

The core of most church walls is a mixture of small flint nodules bedded in hard mortar, and towers are usually constructed in the same way. The inner faces of walls are usually of small flint nodules and broken stones which provide a good key for a plaster rendering. The treatment of the outer faces of towers where they are greatly exposed to the weather varies. In some towers the external facing is of unbroken flint nodules, pointed with a hard lime mortar; in other cases the flints are split in halves and placed so that the fracture planes are to the outside: in both types of facing the joints are necessarily wide, and small flint gallets are inserted in the mortar to provide a more durable surface. Occasionally waste pieces of limestone and brick find a random place in the facing. The most sophisticated form of facing is where the flints are split in halves and then squared: they are then fitted closely together, without galleting in the mortar joints, to provide an almost uniform surface.

1. H. B. Woodward, *The geology of the country around Norwich*, London, 1881, pp. 8, 20.
2. See many of the enclosure awards for details of materials extracted from parish pits: an excellent example at Tharston where Furze Hill Pit yielded chalk, flint and sand.
3. See Great Hospital Account Rolls for the manor of Costessey, where flint was brought from Dunham. NRO: NCR, shelf 24c.
4. See various issues of White's Directory of Norfolk for location of limekilns in the 19th century.
5. See Great Hospital Account Rolls for the Manor of Repps-cum-Bastwick for transport of lime from Norwich to Repps for example. NRO., NCR., shelf 24d.

Flint is also used for the quoins and voussoirs of arched openings on a relatively large scale. Carefully selected nodules are used to form the jambs of openings, and the arches are usually formed by building over a timber centering: it appears from the outlines of timbers remaining that the voussoirs of an arch were carefully chosen, occasionally interspaced with bricks or small pieces of limestone, and put in place first, after which a mortar infill, aggregated with rough flints, was poured over the centering and allowed to set[1]. Most of the semi-circular headed tower arches through to the nave of a church are constructed in this way and a remarkable example, 18 ft (6 m.) high and 6 ft (2 m.) wide, survives at Tasburgh. In a few cases the outer quoins of a nave are constructed from very large flints, good examples being at Surlingham and Tasburgh, but no square tower with flint quoins has been found in south-east Norfolk. Just outside the area surveyed, at Hethel and Ketteringham[2], there are apparently Anglo-Saxon or Norman square towers with flint quoins: those at Hethel rise to a height of about 40 ft (13 m) while at Ketteringham only the lower stage of a tower, part of which was rebuilt after falling in 1614[3] and which was again restored in c. 1890, remains. There are a very few churches in south-east Norfolk with buttresses entirely of flint, the only noted examples being in the north nave wall at Tibenham and at the base of the round tower at Kirby Cane.

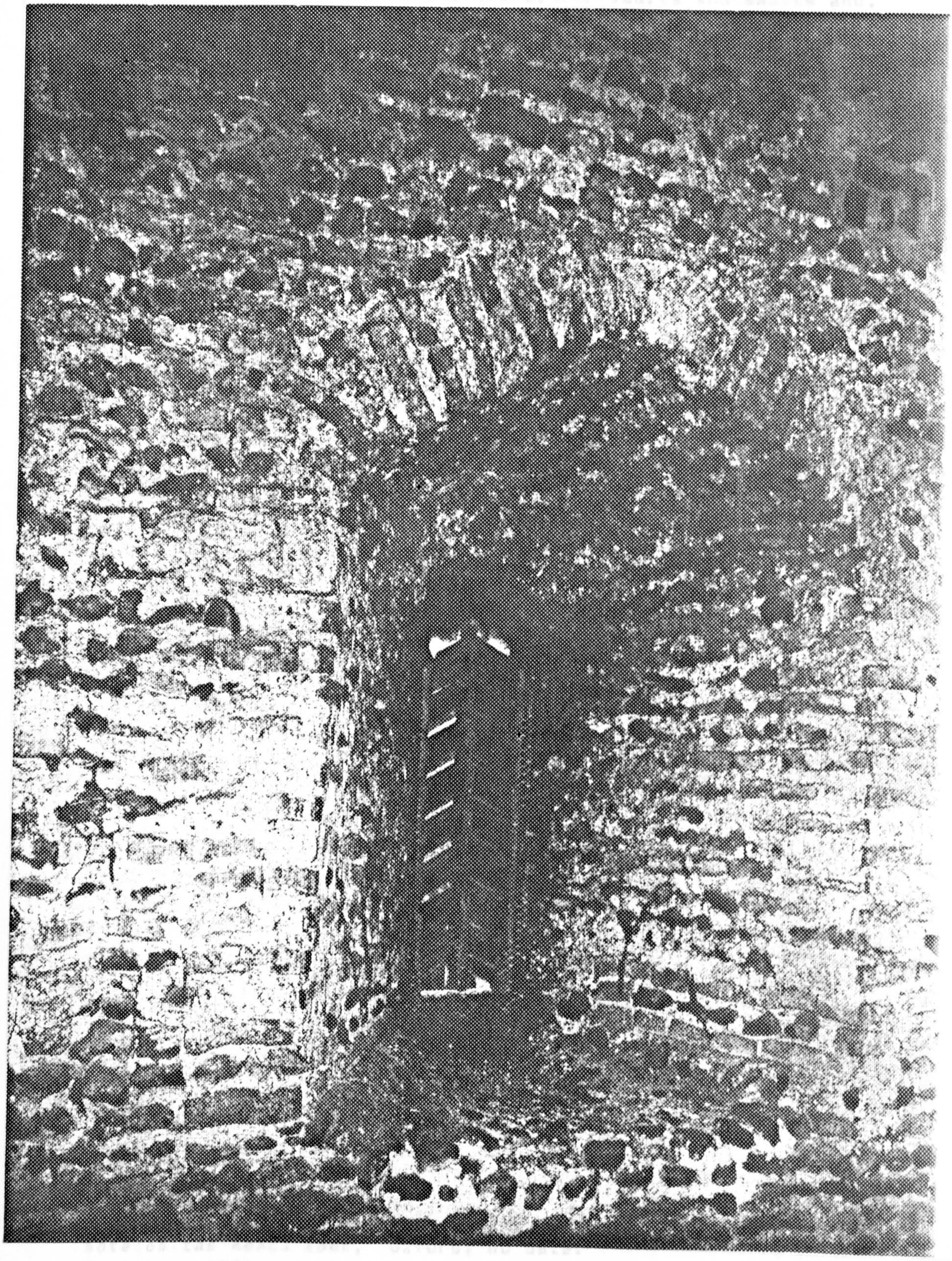
Limestone for use in building was, necessarily, imported. In Norman times, much of the limestone came from quarries in Normandy, but during the 14th, 15th and 16th centuries stone was also imported from quarries in Lincolnshire and Northamptonshire[4]. The Norwich Cathedral Priory rolls show that Weldon and Barnack stone were brought from the quarries by water, landed at Brandon, and brought to Norwich by road. There are also references to building stone from Caen and Quarr coming by river through Yarmouth to Norwich, and it is not unlikely that stone from Yorkshire came into Norfolk by a similar route. The expense involved in transport was considerable: one ton-tight of Weldon stone cost 3 s. 4 d. at Brandon in 1479, and the cost of transport to Norwich was a further 3 s. 4 d[5].

There is no tower in south Norfolk which is faced entirely in limestone, as is the 16th century tower at Beccles, just outside the area surveyed[6], and it is only in the clerestories at Redenhall and Shelton, and in the base-course of the tower at Bunwell, that any extensive use of limestone for facing has been noticed.

1. At Hales it can be seen that the centering used for the round openings at the level of the first floor was made from osiers in the form of basketwork.
2. Visited 1981, see photograph of Hethel tower, p. 317.
3. NRO., PD 42/2.
4. See churchwardens' accounts at Swaffham and East Dereham for example, also Norwich Cathedral Priory Obedientiary Rolls.
5. NRO., DCN., Sacrist Roll 303.
6. Visited many times.

Square tower with flint quoins.

NEWTON FLOTMAN



Brick details in the tower.

The main use of limestone is in the architectural details of buildings, in quoins and voussoirs, in tablements and weatherings, in the formation of moulded arches and piers, for vaults and shafts and, almost universally, for the traceries of windows. 14th and 15th century accounts at St Giles Hospital, Norwich, show that many of the limestone details for buildings could be purchased ready-made in Norwich from various masons, from 'skews' for buttresses to copings for parapets and even a finial cross for a chancel gable[1]. When traceried windows were required for the new chancel at Hardley, the limestone, bought in Yarmouth, was taken to a Norwich yard, where the details were cut, and then taken by cart to Hardley. The rough masons had prepared openings to receive the limestone details, which were fitted by a Norwich mason[2].

Of considerable decorative importance is the formation of patterns by inserting a filling of dark coloured flint in a framework of limestone. Chequered and lozenge patterns are commonly applied to the facings of buttresses while larger areas are sometimed panelled. Often the limestone framework is in the form of tracery; in some cases the limestone has mouldings in relief, while in other cases the limestone framing is faced level with the flint to form flushwork. The tower at Redenhall has its entire west face executed in flushwork, and flushwork parapets form an impressive crown to many towers, that at Bunwell being particularly fine.

Clunch, a particularly hard form of chalk, is found in north-west Norfolk[3] and is occasionally used for the internal details of window openings and doorways: it is very soft and is easily eroded. No major use, such as can be seen in the fine tower arch at St Thomas' Chapel, Wymondham[4], has been noted in south-east Norfolk.

Roman brick has been identified in the tower at Caistor-by-Norwich[5], and the Roman town there has been suggested as a source of the brick found in other local churches, for example at Swainsthorpe[6]. There is no doubt, however, that locally made brick was in use as a building material from at least the 14th century. The Cathedral church at Norwich was floored with brick tiles in 1290[7], the walls of Norwich, begun in 1294[8], show considerable use of brick, and the Cow Tower, in the city, was constructed entirely of brick between 1378 and 1394[9]. Brick appears in a number of churches and towers in south Norfolk from the early 15th century onwards. The earliest dated examples show its principal use in the formation of internal details, such as the corners of the tower and the jambs and voussoirs of arched openings: an important and almost invariable use was in the formation of the soffits of arched openings. In most cases where arched openings are in parts of a church which are regularly seen, the brick details are concealed, either by plastering or, in the case of soffits to windows,

1. NRO., NCR., Shelf 24c, Account Rolls for the Manor of Costessey.
2. See note 1, p. 301. 3. See note 1, p. 315.
4. Visited 1981.
5. L. E. Jones, *The Parish Church of Caistor St. Edmund ... with a note on the Roman town*, Oxford, no date.
6. Taylor, p. 599. 7. NRO., DCN., Roll 217.
8. Blomefield III, 67.
9. Blomefield IV, 402.

by the application of limestone arrises. The earliest datable decorative use of brick on the outside of towers appears in the voussoirs of alternate brick and flint above windows at Hedenham (c. 1417)[1] and Forncett St Mary (c. 1432)[2]. External quoins of brick are first noted at Arminghall (c. 1473)[3].

The earliest structural use of brick on a larger scale is in the upper stage of the tower at Ellingham (c. 1447)[4] where the inside walls are largely of this material. The earliest complete tower to be constructed almost entirely of brick is that at Carleton St Peter (c. 1503-1527)[5] and there are more sophisticated examples at Wheatacre (c. 1522)[6] and Shotesham St Mary (c. 1534)[7]: the Shotesham tower is faced with knapped flint, but at Wheatacre we have the only major use of brick as a decorative facing material. Window traceries of brick are noted in a number of late 15th century and 16th century towers[8], but perhaps the most exciting use of the material is found in the carefully executed vices with vaulted heads at Carleton St. Peter, Wheatacre and Bixley (c. 1526-1534)[9]. It was not until the turn of the 16th century that brick was generally thought to be a suitable material for the external facing of a church or tower, and the only major examples in south-east Norfolk are Shelton nave and aisles (under construction in 1497 and hallowed in 1502)[10]; and Wheatacre tower (c. 1522)[11].

The reticence shown by masons in using brick as a facing for churches and towers is surprising, and is not paralleled in local secular buildings. At Norwich, for example, where the Cow Tower was built entirely of brick in the late 14th century[12], none of the remaining contemporary or later pre-Reformation churches have brick-faced walling. The fabric of the large church at Loddon, which was built by Sir James Hobart in the late 15th century[13], is almost entirely of brick, but it is faced with knapped flint: in his own manor-house at Hales, however, Hobart built extensively and unashamedly in brick, as can be seen in the remaining brick-faced range of Hales Hall and the great barn[14] in the courtyard there.

There is little doubt, from the variety of colours and textures of the bricks used in constructional work that they came from a variety of sources. In the 19th century there were a large number of brickyards in the area[15], and there is every reason to suppose that the local brickearths were exploited during the period when many of the churches were built.

1. C&C. 2. *Ibid.* 3. *Ibid.* 4. *Ibid.*
5. *Ibid.* 6. *Ibid.* 7. *Ibid.*
8. Especially Wheatacre and Shotesham St. Mary.
9. C&C. 10. *Ibid.* 11. *Ibid.*
12. See p. 320, note 2.
13. Blomefield (vol. X, 161) dates the building to the reign of Henry VII, and the name 'Hobart' is certainly inscribed on the stonework of the south porch: the plaster was stripped from the inside walls in 1981.
14. Blomefield VIII, p. 18. Doubts about the durability of brick as a facing material, and a preference for flint, are expressed in a will of 1463 relating to the rebuilding of Risby Gate at Bury St. Edmunds. (EMA., p. 62).
15. See White's Directories, *passim*.

THE DESIGN AND PLANNING OF TOWERS.

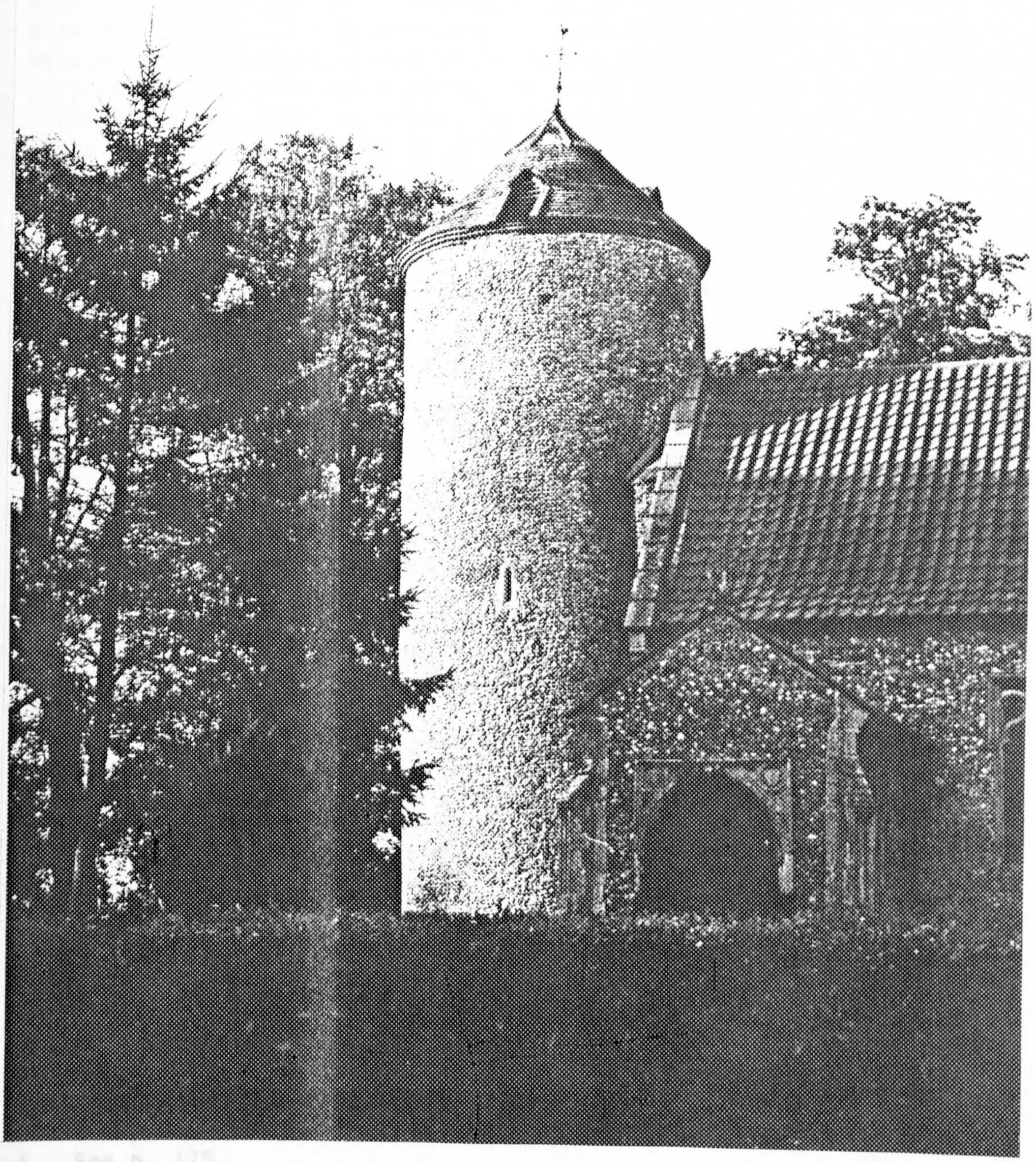
In south-east Norfolk the almost invariable position for a church tower is at the west end of the nave: all the round towers are so placed and only four of the square towers are in other positions. Most towers are symmetrically placed with respect to the nave and an examination of the west walls of churches such as, for example, Bedingham and Tasburgh, shows that symmetry was usually preserved when an older tower was retained at the west of of a nave subsequently widened. At Hardley, Norton Subcourse and Pulham St. Mary the nave was widened on only one side, thus upsetting the symmetrical arrangement of the tower.

In most cases where a nave has been increased in height and width, an older tower looks disproportionately small, as at Ashwellthorpe, where the late 14th-century nave is attached to a very short tower. At Shelton, where there were bequests in 1386 and 1460 to the tower, and where the brick church was under construction in 1479 and was hallowed in c. 1504, the nave roof is high enough to obscure part of the east sound-window of the tower.

It is common to find a round tower which has been increased in height, and of the 32 examined only those at Aslacton, Forncett St. Peter, Gissing, Haddiscoe and Hales appear not to have been extended. Many of the round towers which show signs of having been increased in height have the blocked remains of sound-windows at the level of their former bell-chambers. These openings are identifiable by their comparatively large size and, where the reveals have not been completely filled, by bottom cills which are sloped outwards to carry away the rainwater which must inevitably penetrate a louvred or reeded opening[1]. Good examples remain at Norton Subcourse and Surlingham, while those at Woodton[2] have recently been bricked up. Some of the extended towers, however, show no signs of earlier openings to allow the sound of the bells to escape from the earlier bell-chamber. While it is possible that a defective bell stage has been removed and replaced by a second structure, there is a precedent at Welborne[3] for bells to be hung within a tiled conical roof structure at the top of the tower, the sound escaping through louvred dormers; and such an arrangement might explain the apparent lack of sound openings in the earlier portions of the towers at Kirby Cane, Tasburgh and Thorpe next Haddiscoe.

Bequests[4] supply evidence for dating the round upper stages of the towers at Tasburgh (c. 1385), Howe (c. 1417), Brooke (c. 1461), Hardley (c. 1501 - 1505) and Morningthorpe (c. 1504). At Tasburgh and Howe, the building materials are predominantly flint, while at Brooke, Hardley and Morningthorpe there is considerable use of brick in the formation of the openings of the sound-windows.

1. The tower sound-windows at Norwich Cathedral were reeded for some long time during the 15th century: see NRO., DCN., Sacrist's Rolls, *passim*.
2. See p. 283. 3. See p. 322.
4. All dates in the following paragraph are from C&C.



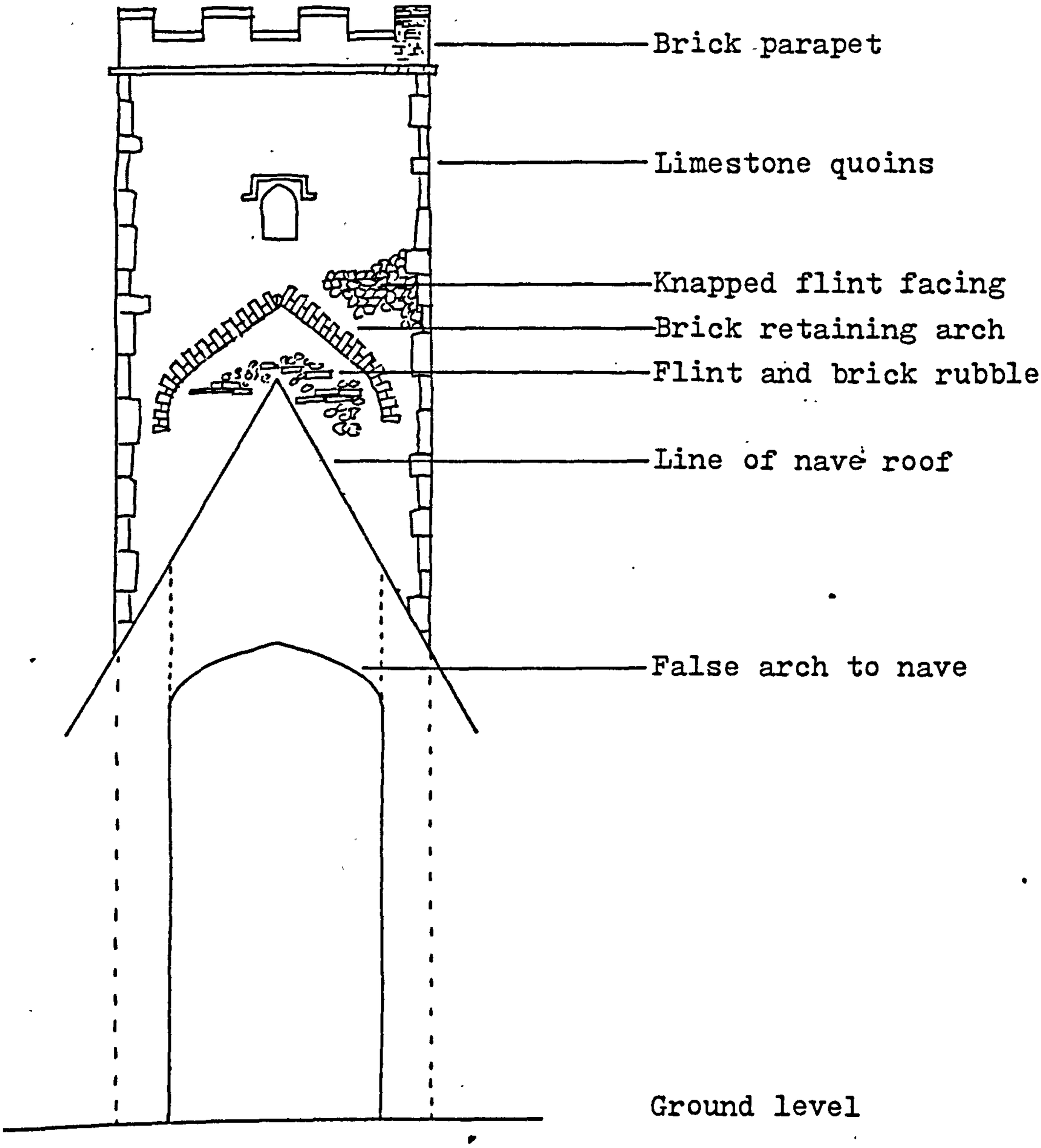
Round tower with conical cap and dormer sound-windows.

The difficulties of arranging a bell-frame in a round tower are discussed later[1], and it seems to be that because of the restriction of useful space imposed by a circular plan, a number of round towers have been extended by the addition of octagonal bell-chambers. Dates for octagonal bell-chambers are suggested by bequests[2] at Surlingham (c. 1458 - 1466), Needham (c. 1473), Rushall (c. 1474), Heckingham (c. 1487 - 1507), and Thorpe Abbots (c. 1503), and there are very late examples at Geldeston (1814[3]) and Roydon (1854[4]). In all the octagonal belfries examined, there is considerable use of brick for the formation of corners, and for making the details of arched openings. A feature found in most of the octagonal belfries examined is a decorative use of limestone and knapped flint flushwork to produce traceried patterns on the faces of the tower between the sound-windows. These octagonal extensions to round towers, as well as being functional, are usually aesthetically very pleasing, and towers such as that at Topcroft[5], where there are two additional octagonal stages on a round tower, are very impressive. A number of Norfolk churches have towers which are octagonal from the ground up: Toft Monks is an example where the tower appears to be a recasing and extension of an older round tower undertaken in c. 1464. The fashion for octagonal towers seems to be mid-15th-century, and there was an notable example in the central tower of the Dominican Friary church in Norwich, constructed in c. 1462, which fell in 1713[6].

In a large number of cases, square west towers are attached to earlier naves. In most instances when the east wall of a tower is supported by the older west wall of the nave, the tower arches are often cut through the older wall with few architectural refinements. In some cases the jambs of the opening are plastered flush with the tower walls, while in others false shafts are attached to the older wall giving the impression of structural tower piers. In most cases the tower arch is strengthened by the insertion of retaining arches, often constructed in brick and plastered but occasionally of limestone. The removal of plaster at Tharston in 1980 revealed that there was no structural joint between the west wall of the church and the side walls of the newer tower, and that the wide straight-joints had been filled with a miscellaneous packing of rubble and broken tile[7]. A new tower added to an older church was sometimes disproportionately tall, as for example at Tibenham; and in some cases structural provision was made for the opening of a taller tower arch in the event of the rebuilding of the nave, as at Bixley and Arminghall[8]. A rather better method of construction was to rebuild the west wall of the church at the same time as the tower was built, as at Shotesham St. Mary[9].

1. See p. 382.
2. See C&C for bequests.
3. See p. 55.
4. See p. 175.
5. See p. 278
6. Blomefield IV, 341.
7. See diagram, p. 323.
8. See diagram, p. 324, and pp. 210, 212.
9. See p. 228.

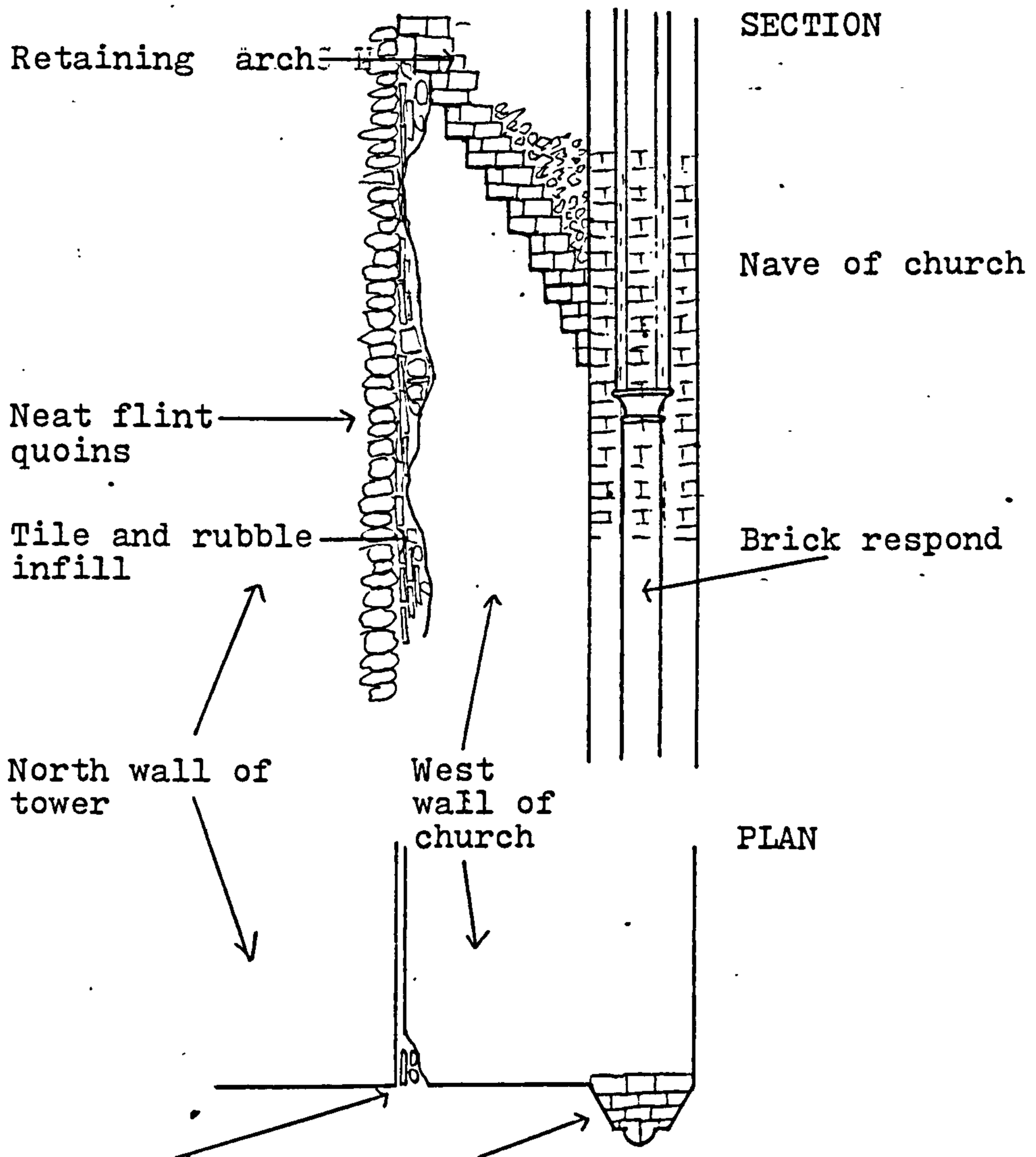
BIXLEY, St Wandregesilius.



Diagram, not to scale, of east face of tower.

THARSTON, St Mary the Virgin

April 1981



Junction of nave west wall and north wall of added tower.

In many cases where a major rebuilding scheme for a church was undertaken the lower part of the tower appears to have been built at the same time, and the addition of the bell-chamber was often left to follow as a second campaign. In such cases it was possible to make an arch giving full support to the tower, which was itself a structural unity, and it was possible to carry diagonal buttresses down to ground level at all four corners of the tower, as at Bunwell[1].

Two churches have towers which are built inside the west end of an apparently earlier nave, and there is evidence for a third. At Bramerton[2], where the church was substantially reconstructed in c. 1463, a small tower was built within the area of the structural nave, partly supported by the older west wall of the church: the east side of the tower is supported by a newer wall parallel to the west wall, and the north and south sides of the tower are supported by wide brick arches. The spaces at ground level on either side of the tower have squints which suggest that they might have been used as small chapels. A similarly constructed tower at Thurton dates from c. 1514[3], and here the north and south walls of the tower are complete to ground level. On both sides there are small enclosed chambers, that on the north being divided by an internal floor to give a first-floor chamber. It is possible that in this case the chambers were used for the accomodation of either a sacristan or a parochial chaplain. At Sisland[4], a former tower of the same type has disappeared.

There are a number of similar towers in other parts of Norfolk, with perhaps the best examples at Wymondham, where a small tower was suppported by a very fine clunch arch across the nave of the parochial chapel of St Thomas, and at Thuxton (c. 1416)[5]. It would appear that the construction of a new tower in this manner would have been much less expensive than the conventional addition of a tower outside the west wall of the church.

In south-east Norfolk, only three remaining parish churches have centrally-placed towers, and none of the other churches surveyed has features which suggest the former existence of a central tower. All three central towers are associated with Norman churches, although the tower at Aldeby seems to have been increased in in height during the 14th century, and to have been rebuilt in 1633[6]. The Norman tower at Gillingham seems to be almost completely unaltered (apart from the removal of a 15th-century parapet[7]), and to have been designed in the first instance as a bell-tower rather than as a lantern tower to provide light in the centre of the church: the first-floor chamber, above the level of the church roofs, has only small lancet openings which do not admit a great deal of light and appears never to have been given a neat internal finish such as would be expected if the tower were open to the church.

1. See p. 93. 2. See p. 214.
3. See p. 275. 4. See p. 274.
5. Both visited 1978. There was a bequest in 1376 to the Wymondham, St. Thomas, tower (Thomas Davy, NCC Heydon 136) and in 1416 to that at Thuxton (C&C).
6. See p. 45.
7. See p. 55.

At Fundenhall the large central tower was increased in height during the early 15th century[1], but retains the Norman first-floor stage. As at Gillingham, there is no evidence that it was designed as a lantern to throw light on the central space between the nave and chancel. The central position for a tower seems to have been a matter of fashion rather than function in each of the above churches, and there is no surviving evidence for central towers of a later date than the Norman period of building.

At Chedgrave[2], where the square tower is at the north-east corner of the church, it appears that a western tower may have fallen, and that a small chapel attached to the chancel was increased in height to form a belfry. Although not uncommon in other parts of the county, none of the churches in south-east Norfolk has a tower whose lower stage forms a north or south porch[3].

BUTTRESSES.

In most of the square towers examined the thickness of the walls diminishes with the height of the tower. This is usually visible inside, where a series of off-sets at the levels of the tower floors, usually two in number, may reduce the wall thickness in a typical tower from say 4 ft 6 inches (1.5 m) at ground level to 3 ft (1 m) in the upper stage.

Although the addition of buttresses adds greatly to the strength of a tower, about one-third of the the square towers examined were built without buttresses. In most unbuttressed towers, the external width is constant from bottom to top, but there are a number with a distinct batter, including Arminghall (c. 1474[4]), Bramerton, Hedenham (c. 1417[5]), Rockland St. Mary and Trowse. These towers are not large, but the batter provides considerable strength in the absence of buttresses. There are examples of unbuttressed square west towers of probable Anglo-Saxon or Norman date immediately outside the area surveyed at Hethel and Ketteringham[6]; and in the area surveyed, unbuttressed towers of a variety of dates[7] have been noticed, including Forncett St Mary (c. 1432), Ellingham (c. 1447), Tivetshall St. Margaret (c. 1456), Arminghall (c. 1474), Stratton St Michael (c. 1485) and Bixley (c. 1526-1535). One has only to compare the very similar towers at Tivetshall, which is unbuttressed, and Tharston, where there are handsome panelled diagonal buttresses, to see that there is a distinct aesthetic advantage in well-designed buttresses.

The usual form of buttressing consists of a pair of diagonal buttresses at the north-west and south-west corners of the tower, with occasionally a pair of buttresses at the junctions with the nave walls: these latter are often in the same line as the west wall of the nave, rather than set diagonally. The massive tower at Redenhall (c. 1469-1498[8]) has octagonal buttresses, a feature noted in roughly contemporary towers at Bungay (Suffolk), Eye

1. See p. 113. 2. See p. 256.
3. Examples nearby at Little Ellingham, Hardingham, Wicklewood, etc.
4. C&C. 5. *Ibid.*
6. See above, p. 316.
7. C&C. for subsequent dates. 8. See p. 204.

(Suffolk), Laxfield (Suffolk) and Wymondham[1]. The only recorded example of paired buttresses is in the tower at Diss, where the north-west and south-west corners are thus treated. At Diss, the tower is relatively small and the strong buttressing allows it to support a heavy ring of bells. In a few cases structural evidence shows that buttresses were added to an earlier unbuttressed tower, and there is documentary evidence for this process in an Alburgh will of 1504[2].

It would appear that the provision of buttresses is unrelated to the date of a tower, and that considerations of cost as well as strength influenced their provision. It is, perhaps, significant to notice that few of the unbuttressed towers have an expensive masonry stairway to the upper floors, access being as a rule by movable ladders.

BASE COURSES

All the round towers, and a few of the square towers, examined rise from the ground with no definite plinth, or base course. Apart from the structural advantage of a thicker wall at the lowest part of a building, a plinth can add much to the appearance of a tower. This was realised by the designers of several of the 15th and 16th century towers, who turned a useful feature into a very definite embellishment. The absence of a base course is particularly noted in the less 'expensive' towers, such as those initially built without buttresses or vices at Forncett St. Mary, Dickleburgh and Tivetshall St. Mary, as well as at Shelton and Winfarthing.

There are very simple, undecorated, base courses to the flint towers at Arminghall and Bixley, for example, and to the brick towers at Carleton St. Peter and Wheatacre. Flushwork decoration of the base course occurs in simple rectangular panels at Alburgh and Tharston, while Broome, Bressingham and Pulham Market towers have panels with simple trefoiled heads. Perhaps the most exuberant patterning occurs at Thurlton, where the base course has a band of flushwork lozenges beneath a delicately-patterned arcading with trefoiled heads and pierced spandrels. Decoration of the older base-course beneath the late-18th-century brick tower at Burgh St. Peter is achieved by brick headers set out in a diaper pattern in the flint facing. Bunwell tower has a very deep base course executed in plain limestone which, from its bare effect, suggests that there was an intention to embellish it with sculpture at a later date, possibly in similar manner to the tower of the neighbouring church at New Buckenham. Redenhall tower has carved shields contained in quatrefoils on its limestone base course, and Ditchingham has an impressive array of limestone shields alternating with carved lozenges of limestone displaying alternately the Crown of Thorns and the Sacred Heart.

1. T. D. Atkinson, *Local Style in English Architecture*, London, 1947, appendix V.
2. C&C.

PARAPETS.

Although not strictly a structural necessity, a parapet adds much to the appearance of a tower; and one has only to compare the gaunt and unfinished appearance of the otherwise fine towers at Kenninghall and North Lopham[1] with that of towers such as Loddon or Bunwell to see the motivation for finishing a tower with a parapet. Very few of the parapets to towers in south Norfolk can be given relatively firm dates, since it is rarely possible to establish the interval between the completion of the main tower and the addition.

The most usual form of parapet is a simple coping, which may have applied decoration as at Thurlton; or an embattled parapet of brick or limestone, sometimes faced with flint, similar to that referred to in the 1472 bequest at Gillingham. One of the most impressive of the embattled parapets is that at Loddon, where bequests between 1501 and 1504 almost certainly refer to the very fine parapet which remains: there are three merlons on each side with diagonally set pinnacles at the corners and small crosses on the central merlons; the parapet is constructed of a mixture of brick and flint, its faces panelled in fine traceried flushwork, with the initials 'S' and 'T' apparently referring to the dedication of the church to the Holy Trinity. The embattled and pinnacled parapet at Ditchingham is decorated with lozenges of limestone, reflecting the decoration of the base course, in a design which closely resembles the parapets of a number of churches in, and to the north of, Norwich; and at Tibenham the embattled parapet has, in place of pinnacles, carvings of the symbols of the four evangelists in an impressive array.

A particular form of parapet which seems to have found favour in south-east Norfolk, and which has more in common with the Suffolk towers, has stepped and embattled merlons. The usual form of decoration, as seen at Ellingham[2] for example, is flushwork panelling to the merlons with carved limestone inserted below the embrasures: the decoration often includes formal patterns and shields. Pinnacles vary from the rather squat, diagonally-set pinnacles at Ellingham to the elegant, thin pinnacles, supported by small flying buttresses, at Alburgh. Perhaps the finest examples are at Redenhall and Bunwell, both 16th century, which seem to echo something of the effect of the fretted parapets seen in the towers of the Somerset churches[3].

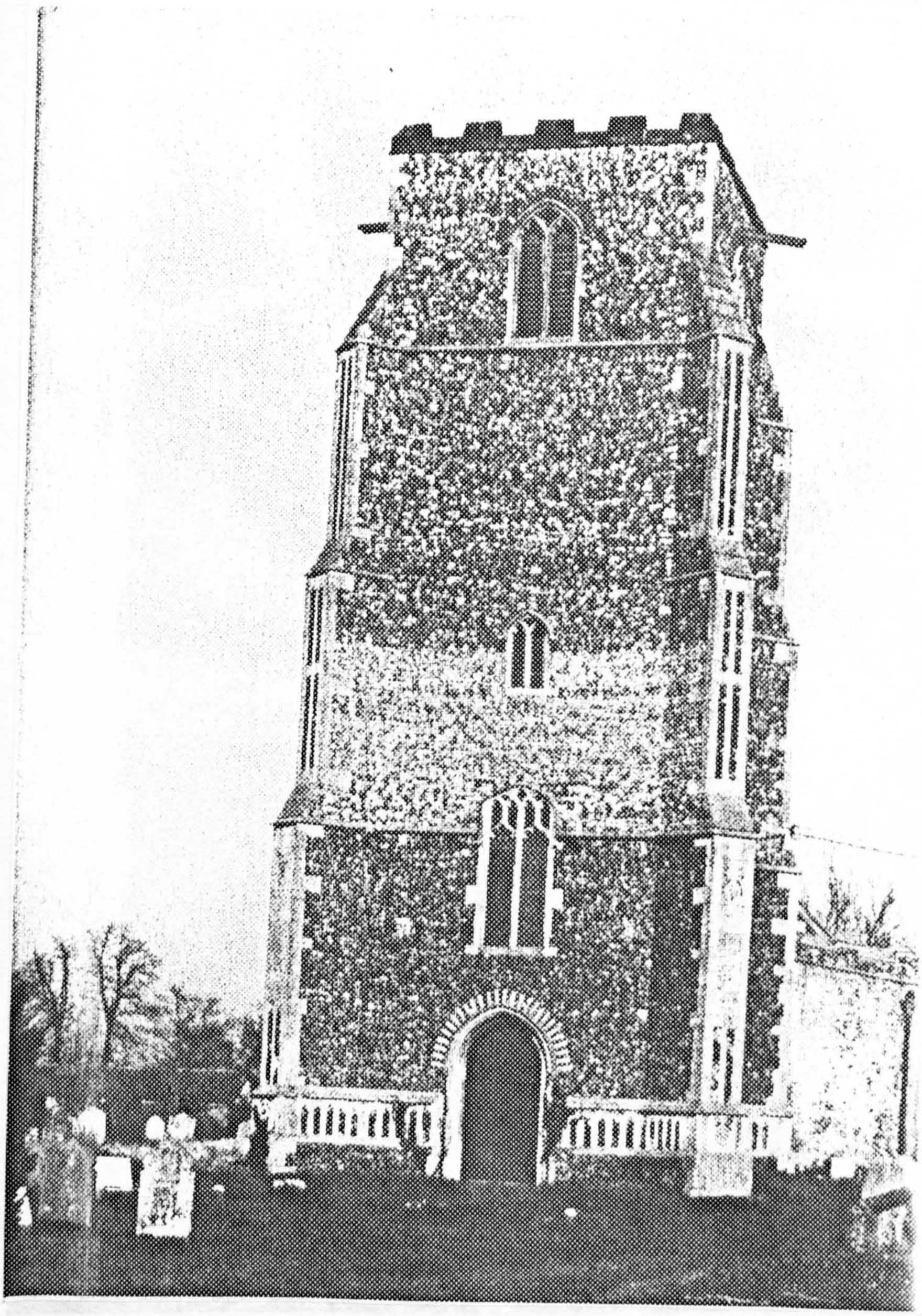
ACCESS TO UPPER FLOORS.

Examination of churchwardens' accounts through to the 19th century, when the design of bell-gear became more sophisticated, shows that

1. See photograph of North Lopham tower, p. 330.
2. See p. 331.
3. P. Poyntz-Wright, *The Church Towers of Somerset*, Avebury Publishing, 1981.

NORTH LOPHAM

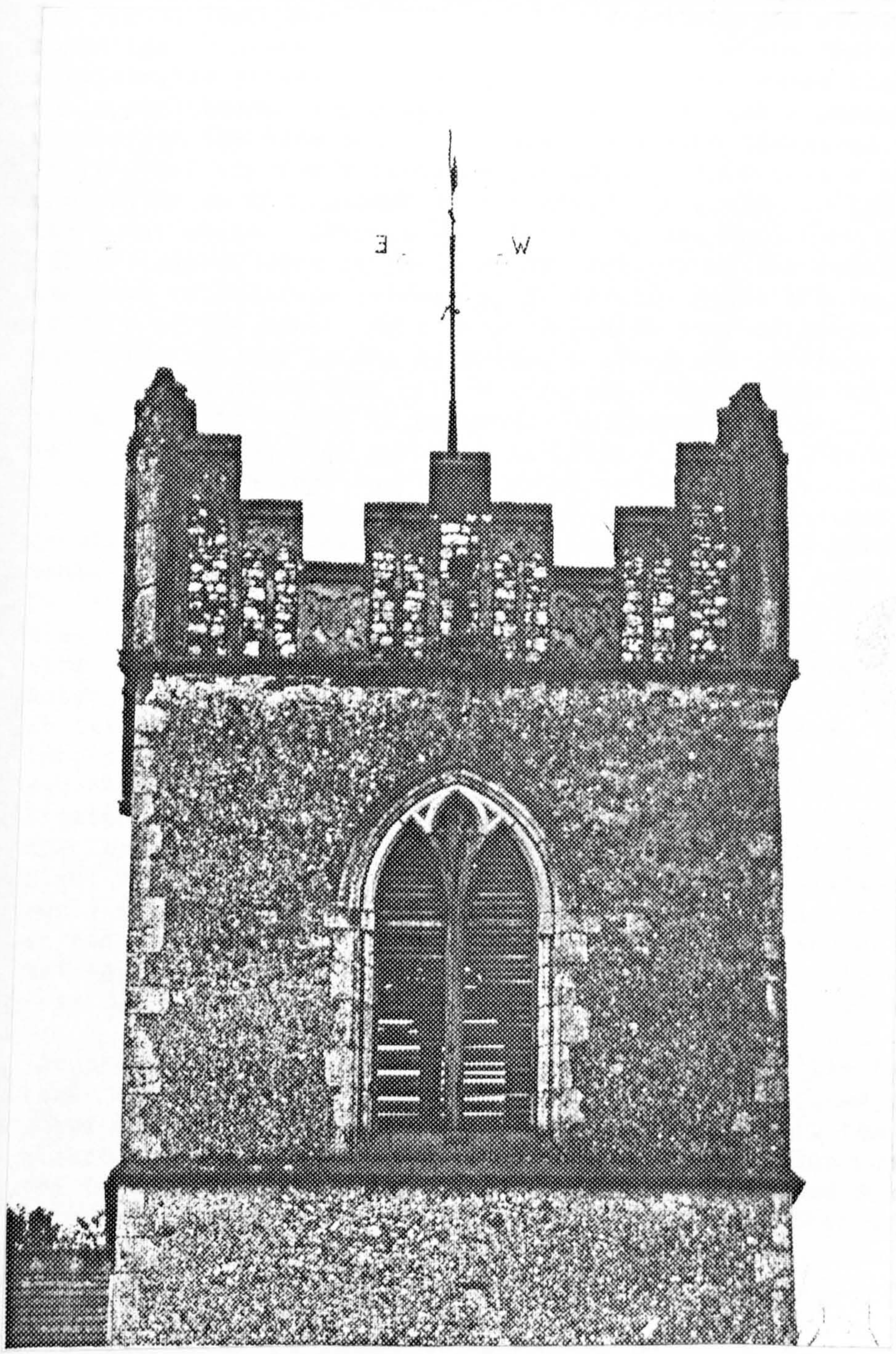
April, 1979.



Tower with inadequate parapet.

ELLINGHAM

July, 1981.



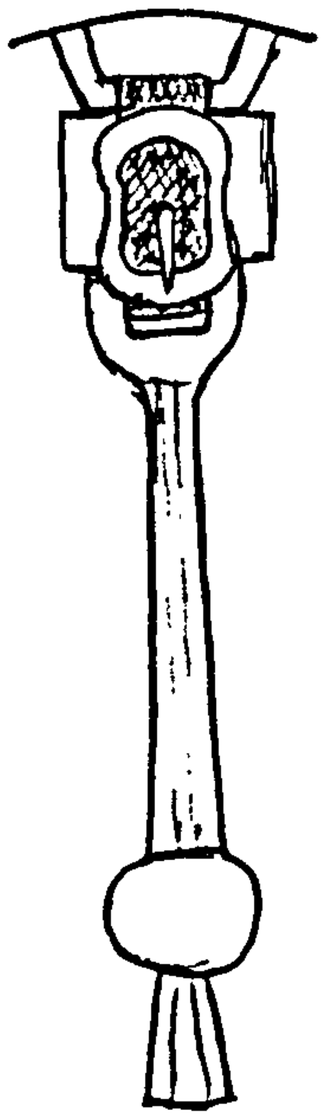
Parapet.

frequent attention was needed to keep bells in fit condition for ringing. The regular 'trussing' of the bells was an essential precaution where they were hung from ironwork secured by wedged bolts rather than by screwed nuts, and the clapper fastening, consisting of a thick leather strap, or 'baldrick', needed frequent replacement[1]. The ropes, too, which ran over various pulleys and rollers needed attention to prevent them breaking at points where there was considerable frictional wear. It is for this reason that access to the upper floors of the tower was important, and a masonry stairway, usually in the form of a vice, was a distinct advantage over ladders. It is usual for the vice to be accomodated partly in a stair projection on the outside of the tower and partly in the thickness of the tower walls. This causes structural weakness, and in a number of taller towers, such as those at New Buckenham[2] and Beccles[3], the sections of stairway connecting different levels are in different corners of the tower: no similar examples were noted in the towers surveyed. In two towers examined, Rushall and Stratton St. Michael, the weakness associated with a stairway has resulted in its being filled in with rubble to preserve the tower structure; and only at Redenhall in the area surveyed is there a masonry stairway from the ground-floor through to the level of the tower roof. In most towers the vice provides access only as far as the second-floor chamber which usually houses the bells: examples are found in the towers at Alburgh, Ashby St. Mary, Bressingham, Bunwell, Ditchingham, Loddon, Pulham Market, Scole, Tharston, Thurlton, Thwaite St. Mary, Tibenham and Wheatacre. Access as far as the first-floor chamber by means of a vice, and thence by ladders is noted at Bixley, Broome, Carleton St. Peter, Fundenhall, Hedenham, Saxlingham Nethergate, Shelton, Shotesham St Mary, Thurton and Tivetshall St Margaret, and the incomplete towers at Billingford and Carleton Rode have vices which may have reached higher than the remaining first-floor chambers. Straight stairways in the thickness of a wall and reaching as far as the level of a first-floor chamber, are noted at Caistor St. Edmund, Diss, Haddiscoe and Stratton St. Mary, and the only example of an early timber stairway, as opposed to a ladder, is in the round tower at Forncett St. Peter, where the stair treads are formed from triangular pieces of oak fixed to a pair of parallel beams by large iron nails, and the whole is encased in a neat wainscoting[4].

The problems associated with climbing to the upper levels of a tall tower doubtless prompted a bequest at Pulham St Mary in 1504[5], when money was left to make a vice in the steeple, and it can be seen from structural evidence that the masonry stairways to the upper floors of the towers at Aldeby, Dickleburgh, Ellingham, Needham Saxlingham Nethergate, Shimpling and Surlingham are later additions to the original design.

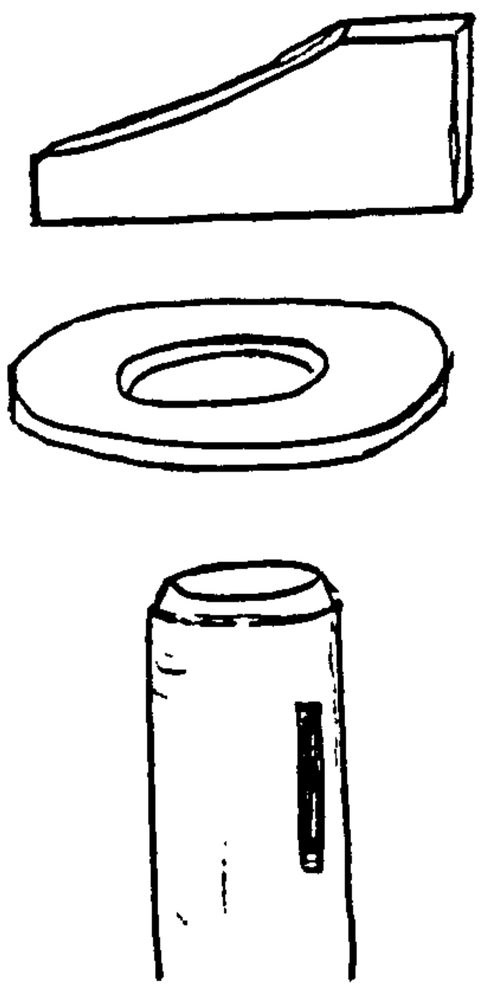
1. See diagrams, p. 333.
2. Visited 1979.
3. Visited frequently.
4. See p. 107.
5. C&C.

DIAGRAMS OF BELL-GEAR

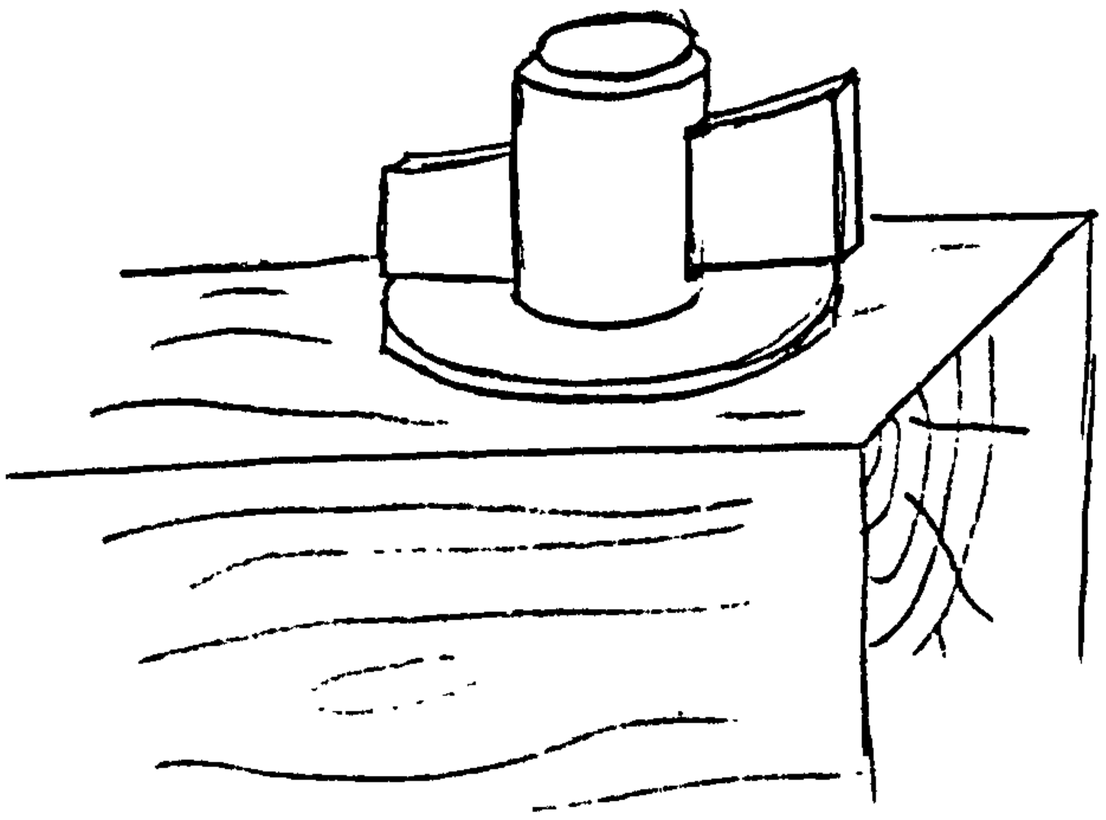


Sketch showing the method of suspension of the clapper from the crown-staple of a bell.

A buckled leather strap, known as a baldrick, connects the looped top of the clapper-shank to the crown-staple of the bell; rigidity is maintained by the insertion of a hard wood spacing piece.



Sketch of a wedge-bolt assembly.



WEST DOORWAYS.

In many cases the west doorway, through the ground-floor chamber of the tower, is treated as the principal entrance to a church, and considerable artistic effort is noticed in the composition and design of many west facades. At Redenhall, for example, the west front of the tower is covered from top to bottom with intricate flushwork panelling; the west doorway has decorated spandrels and is flanked by stooled niches; a frieze of shields, on which the arms of benefactors may have been painted is above the doorway and there is a fine large west window of four lights: the other sides of the tower are very much plainer with no flushwork and no decoration other than the belfry sound-windows. Another fine west facade is at Ditchingham where there is a four-light west window of exceptional size. In some of the smaller towers, too, the west facade shows distinctive treatment, a particularly good example being at Broome: and even in the very plain unbuttressed tower at Tivetshall there is a well-designed west doorway.

The west doorway is often chosen for a display of heraldry, doubtless reflecting the generosity of those who had subscribed to building work. Recognisable carvings of arms remain at Broome and Bressingham, while other towers have blank shields on which blazons might formerly have been painted. Although outside the area studied, the west doorway at New Buckenham[1] is worth description as being a particularly elaborate development of the type seen in south-east Norfolk: the arch is finely moulded and supported by shafted jambs, arms are carved in the spandrels as well as in a frieze showing eight coats above the doorway, and there is very finely executed flushwork panelling on either side of the door.

TOWER GALLERIES AND CHAPELS.

For the west doorway to be of use as a ceremonial entrance, it is important that the activities of the bell-ringers should be removed from its immediate vicinity[2]. It seems to be for this reason that ringers' galleries were provided in many towers, and the will of Geoffrey Elyngham of Fersfield[3] is clear on the point when he leaves money for the construction of such a gallery in 1493:

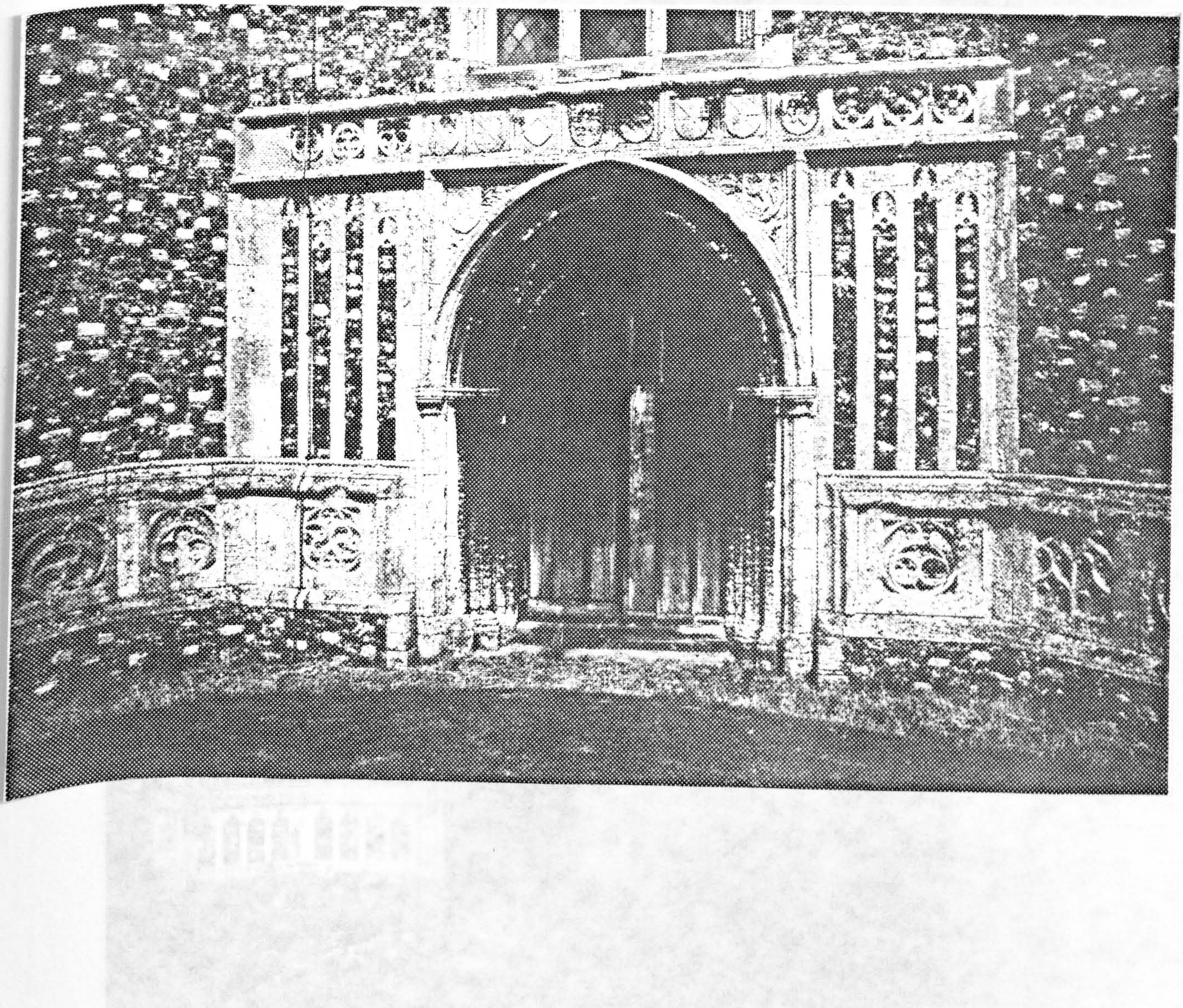
> 'Item volo quod executores mei fieri faciant unum solarium in campanili dicte ecclesie obsimile et instar solarii in campanili ecclesie de Esthrlyng ut processio festivis diebus subter pulsantes procedat'

Ringing on various festivals is noted in contemporary churchwardens' accounts at East Dereham[4], and it is very likely that it was a common practice for processions to pass through the main doorway of the church while ringing was in progress. Contemporary ringers'

1. See photograph, p. 335.
2. A view which would be endorsed either by ringers or members of the congregation at Spetchley, Worcestershire, where ringing takes place immediately in front of the west doorway, and where hats have been whisked from heads by flying bell-ropes.
3. C&C. 4. See p. 357.

NEW BUCKENHAM

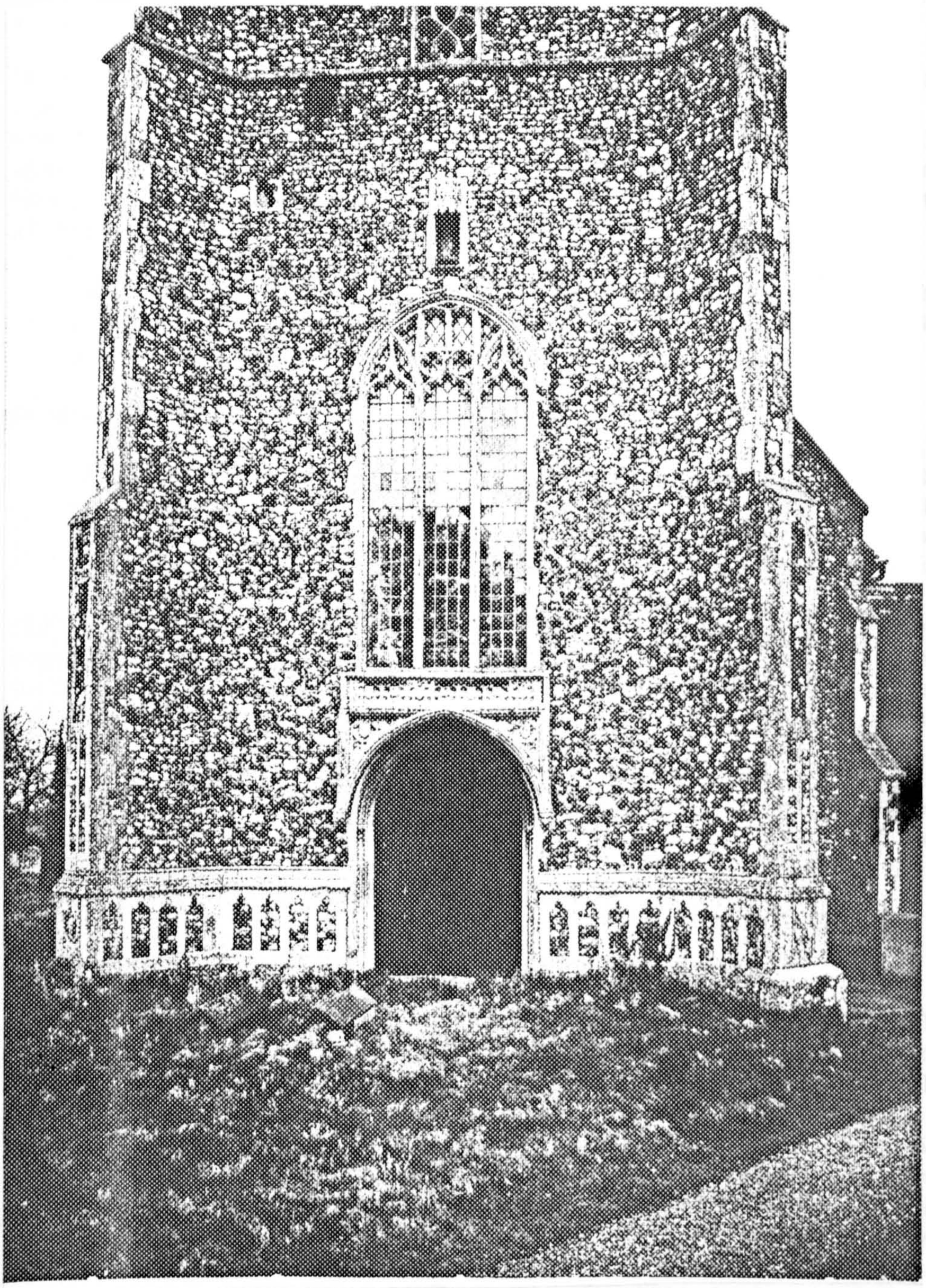
June, 1979.



West doorway.

BROOME

June, 1979.



West doorway.

galleries survive in the towers at Bunwell, Redenhall, Tibenham and Wheatacre. There is also provision for galleries, now no longer in existence, at Bressingham, Broome, Pulham Market, Tharston and Tivetshall St Margaret. The gallery at Bunwell is reached through a doorway from the tower stairway, and there are numerous examples of contemporary doorways in tower stairways at the level of former ringing galleries. There are also many instances, such as Redenhall, where the ringers' gallery is reached from an independent timber stairway.

In a few towers outside south-east Norfolk, inscriptions remain on surviving pre-Reformation ringers' galleries showing them to have been erected at the cost of parish guilds. The tower gallery at Cawston[1], where building work was under way in 1421 and probably continued through to c. 1480, has the following inscription carved on the face of the westernmost floor joist:

> 'God spede the plow and send us ale corn enow our purpose for to make at crow of cok of the plow lete of Sygate: to be marry and glede wat good ale this work mad'

At Worstead[2] we read:

> 'This work was made in the yer of god MCCCCCI at the propur cost of the catell of the chyrch of Worsted callyd the bachellers lyte that god preserve wt all the benefactors of the same now and ever amen. Then wer husbonds Cristofuer Rant and Jeffery Deyn'

The implied connection between parish guilds and tower galleries suggests that there might have been a small chapel, for the use of a guild priest, either on or below the gallery: holes in the gallery rail at Cawston are said to have served to hold the lights which were kept before the Plough Rood there[3].

Bequests[4] leave no doubt that there was a chapel in the tower of St. Andrew's church, Norwich, and images of saints in church towers are recorded at Hassingham[5], where there was also a light and at Burgh, near Aylsham[6], where the bequests reads:

> 'I bequeth to the peyntyng of our lady at the stepyll vj d.'

In a number of churches in south-east Norfolk there are small niches in the walls of tower ground-floor chambers and galleries, and at Bunwell the niche is accompanied by a bracket. There seems little doubt that in many cases the ringers' gallery, or the ground floor of the tower, served as a small chapel where lights were kept burning and where, possibly, guild priests said their prayers for departed brethren. The curious squints through the walls on either side of the tower arch at Bramerton also suggest the former site of minor altars.

1. E. F. W. Ames, *Notes on the Church of St Agnes, Cawston*, 1953, pp. 13-15. See p. 95. See also C&C for dates.
2. Visited 1982.
3. See note 1, above.
4. See p. 95. note 1.
5. *Ibid.*
6. Will of Joanna Tyllys. NCC Wolman 190.

WILBY

17th-century ringers' gallery.

TOWER ARCHES.

Tower arches are often a dominant feature of the interior of a church, and their design can do much for the character of a building: one has only to compare the equally fine naves at Bunwell and Ashwellthorpe to see how the small scale of the Ashwellthorpe tower arch detracts from the general appearance of the church. Many of the later towers have very large arches through to the nave, allowing light from a large west window to fill the area where the font usually stands, and bequests at Topcroft in 1434 suggest that the lighting of the font was much in mind when the new west window was inserted in the tower[1]. In a significant number of cases, however, small Anglo-Saxon or Norman tower arches survive a later reconstruction of a nave, as, for example at Bedingham and Fritton, where semi-circular headed arches remain, and a handsome, tall Anglo-Saxon arch at Forncett St Peter opens into the apparently 14th century nave which retains the proportions of an older building. Tower arches at Aslacton, Topcroft and Woodton appear to have been increased in size when a church was reconstructed, but there is a curious anomaly at Tasburgh where a tall Anglo-Saxon arch to the tower has been blocked to present a very insignificant pointed arch to the nave. The finest of the tower arches, of which Alburgh, Bressingham and Loddon are examples, are those whose proportions agree with those of a contemporary nave or its arcades. The tower arches at Arminghall and Bixley, already mentioned[2], are designed to take account of a possible increase in the height of the church roof, and in each case a tall arch in the east face of the tower appears to have a contemporary filling which could easily be removed when required, above a false arch to the nave.

STRONG ROOMS AND TREASURIES.

There is considerable structural evidence for the use of chambers in towers as strong rooms, and many doors at the feet of stairways to the upper levels of towers are very heavily framed and constructed, as are doors leading from vices to intermediate chambers in towers. Outside the immediate area of the survey, a number of instances were noted where heavily constructed safes are built into the walls of upstairs chambers in towers. At Yaxham[3] the round tower has a first-floor chamber in which there is a heavily iron-bound cupboard with a lock: the chamber is approached from a limestone vice, constructed inside the area of the round tower, which has three iron-bound doors, one at the foot of the stairs and two at the top. An early 15th century will provides for the purchase of a new chest, with three locks, to contain the church valuables at Hedenham, and it is directed that the chest should be kept securely in the tower[4]. The churchwardens' accounts at East Dereham[5] make frequent references to the repair of the treasury (presumably the chamber above the south transept), as well as regular payments to the keeper of the church valuables, and at certain times of the year, presumably when more valuable items were left on the altar or when there were expected to be sums of money in collecting boxes, special payments were made to those who watched in the church by night[6]. It seems very likely that sacristans or other officials

1. C&C. 2. See p. 323. 3. Visited, 1979.
4. See the will of Thomas Ilketshall, NCC Hyrnyng, 26.
5. See p. 296, note 1. 6. *Ibid.*

might have been required to spend the night in the treasuries, and there are instances of upper chambers in towers, for example at Forncett St. Mary, where the doors are secured from within by a sliding bar, rather than by a lock which could be worked from either side of the door[1].

Many of the churches in rural Norfolk, as well as those in Norwich, were appropriated to various religious houses, and in several cases there was no establishment of a vicarage, the church being served by stipendiary chaplains. The obedientiary rolls of Norwich Cathedral Priory[2] show that in these churches the rectory was usually farmed out, and that a parish chaplain was accomodated in a 'camera' attached to the church. Although there is no case in which a specific reference is made to the chaplain's accomodation being in the tower, structural evidence suggests such a possibility: at Wicklewood[3], for example, the tower has two internal rooms, at the level of the first and second floors, each of which has a large fireplace. It is equally likely that an absentee rector might install a chaplain, who would require accomodation, to carry out parochial duties: the churches at Scoulton[4] and Blo Norton[5], both rectories, have tower chambers with fireplaces, that at Blo Norton being particularly well-lighted and fitted with cupboards. The two towers noted in south-east Norfolk, where there is a suggestion of a chamber for a chaplain or sacristan are at Thurton, appropriated to Langley Abbey[6], and Toft Monks[7].

Whether the first-floor chamber in a tower was occupied by a chaplain or by a sacristan, it is likely that there would be an obligation for the safe-keeping of church property[8], and it seems very probable that the frequently-noted windows from such chambers through to the nave of the church were provided, or adapted from former doorways to the roof-space, to enable a watch to be kept on the inside of the church. Despite Cautley's[9] identification of many such openings as 'sanctus-bell windows', it is worth noting that among the many instances of such windows in church towers in Norfolk there is frequently evidence for a contemporary ringers' gallery at a lower level in the tower, from which the bell could have been rung. In many cases a 'sanctus bell window' appears in the tower of a church which has a bell-cote on the gable between the nave and chancel[10]: here a sanctus bell, rung by rope from a position close to the altar, could very conveniently be accomodated. It seems much more likely that such openings were originally left to give access between the steeply-pitched outer roof of a nave and a plastered ceiling, a function which many serve at the present time, and that reconstruction of a nave, including the replacement of a ceiled roof by one with open timbering, removed their former purpose: there are instances where such openings have been blocked in rebuilding, but many more where they remain open.

1. See p. 294.
2. NRO., DCN., Obedientiary Rolls, *passim*.
3. Visited, 1978. 4. Visited, 1978, 5. Visited, 1979.
6. Blomefield, X, 181. 7. See p. 72. 8. See p. 294, note 3.
9. See, for example, Bressingham, p. 161. Compare with Cautley, p. 12.
10. For a good example of such a bell-cote, tenanted by a modern bell, see p. 341.

SHOTESHAM ST. MARY.

Sanctus bell cote, June, 1983.

WINDOW OPENINGS:

In this section support for dates of towers in south-east Norfolk should be sought in the survey notes for individual churches, as should photographs of the towers referred to.

Single-light window openings are found in towers of all dates, ranging from the simple round openings, formed without the use of limestone, in the Anglo-Saxon towers at Forncett St. Peter and Hales, through the dressed limestone openings in Norman towers at Seething and Brooke to the sophisticated cusped-headed openings in the first-floor chamber of the 16th century tower at Bunwell. The three Anglo-Saxon towers surveyed which retain early bell-chambers have two-light windows: pairs of triangular-headed openings occur at Aslacton and Haddiscoe, while the Forncett St. Peter tower has triangular-headed openings in two directions with apparently contemporary round-headed openings in the other two directions; in all three cases, there are large through-stone capitals supported by central piers. A number of Norman towers, of which Gissing and Thorpe-next-Haddiscoe are examples, also have two-light windows with pairs of round-headed openings.

After the general abandonment of the semi-circular form the design of arched openings shows wide variety, and examples of all types are found in towers dating from the end of the Norman period through to the 16th century. Uncusped lancet-headed openings appear in the late Norman first-floor stage of Fundenhall tower and are used through to at least the 16th century, appearing, for example, in the octagonal part of Heckingham tower (c. 1487-1507). Perhaps the most impressive example of the use of lancet openings is in the octagonal tower at Toft Monks, where all openings are of this type. Equilateral forms, common in the 13th century[1], are found in the late 15th century towers at Arminghall and Tacolnestone, while obtuse forms occur from the second half of the 14th century onwards, early examples being at Aldeby (c.1377) and Shelton (c. 1387). Segmental pointed arches are found in c. 1431 at Bressingham, but seem to fall out of favour towards the end of the 15th century to give place to the four-centred arches employed, for example, at Loddon (c. 1487-1504), and the latter type persist through to the 1530's and beyond. Four-centred flat arches are much used on the inside of windows which are not normally on public view: the sound-windows at Bressingham are treated in this way, as are those at a number of later towers, good examples being seen at Morningthorpe (c. 1504)[2]. Segmental-arched openings are found in windows in the towers at Hedenham (c. 1417) and Shotesham St. Mary (c. 1534); and in the arch to the west doorway at Wheatacre (c. 1522), where the west window has a three-centred arch. Only at Wheatacre (c. 1522) have large square-headed sound-window openings been found in a pre-Reformation tower, and square ventilators to the first-floor chambers are found only at Broome, Hempnall and Ditchingham[3].

1. F. Bond, *Gothic Architecture in England*, London, 1905, p. 259.

2. See p. 123.
3. See T. R. Roast, *Sound-holes, a feature of Norfolk Church Towers*, unpublished thesis, North-East Essex Technical College, 1975, for a full treatment of the subject.

WINDOW TRACERIES. [illegible] outer supports are further [illegible]

In this section support for dates of towers in south-east Norfolk should be sought in the survey notes for individual churches, as should photographs of the towers referred to.

In several instances two-light windows have simple, uncusped 'Y' tracery of a kind which is often stylistically dated to c. 1300[1], as, for example, in the tower at Diss, but in a number of towers, particularly where the insides of window openings are seen to be constructed in sophisticated brickwork, examination of bequests indicates that 'Y' tracery was relatively common in south-east Norfolk throughout the Perpendicular period. Limestone windows with 'Y' tracery occur in dated towers at Ellingham (c. 1447), Tacolnestone (c. 1462) and Arminghall (c. 1474), and there are brick examples at Carleton St. Peter (c. 1503-1527), Needham (c. 1464) and Shotesham St. Mary (c. 1534). Extensive use of 'Y' tracery was made when the church at Tacolnestone was rebuilt in c. 1503-1507[2], and there is a very late use in the north window of the tower at St. Stephen's church, Norwich, constructed during the second half of the 16th century[3].

Cusped 'Y' tracery also appears in a number of Perpendicular church buildings. Close examination of the structure of Bramerton tower, in conjunction with that of the church fabric, suggests that its date is probably closer to that of a bequest for bells in 1458 than to the late-13th-century or early-14th-century date suggested by Pevsner[4]; the sound-windows here have acute two-centred arches with large cusps which are very reminiscent of work of c.1300 in the nave of Norwich Cathedral[5] but which must, at Bramerton, be mid 15th century. On the evidence of the remaining stubs it can be seen that similar tracery filled the sound windows at Hedenham (c. 1417) and Shelton (c. 1460), and it is also seen as late as the second half of the 16th century in the tower of St. Stephen's church, Norwich[6]. Cusped 'Y' tracery is also very common in towers where the arched openings are four-centred: here the design usually consists of cinquefoils heads to the main lights with a winged motif at the head of the window. There are dated examples at Bunwell (c. 1499-1504) and Rushall (c.1474). Another treatment of the head of the window is to form a small eyelet with a semi-circular upper half on a triangular base, as at Rushall (c. 1474) and Morningthorpe (c. 1504).

Intersecting tracery, too, is often dated to c. 1300[7], but a three-light window with intersecting brick tracery occurs in the tower at Carleton St Peter (c. 1503-1527). A rather more elaborate brick tracery design, with six super-lights beneath a three-centred arch, appears at Wheatacre (c. 1522). The west window at Bressingham (c. 1431) has three lights with ogee heads, the centre light being somewhat taller, above which are embattled super-transoms and a set of six super-lights. At Broome, the attractive west window of three lights has very unusual tracery; the lights have ogee heads with a

1. Pevsner, p. 420.
2. C&C.
3. *Ibid.*
4. Pevsner, p. 94.
5. EMA., p. 371.
6. C&C.
7. Pevsner, p. 420.

transom above the middle light; the outer superlights are further divided by curved bars, and there is a pair of quatrefoils between the central transom and the head of the main light. The three-light sound-windows with obtuse arched heads at Redenhall (c. 1469-1498) are of a type commonly found in the aisles of churches[1]: they have arched heads to the main lights supporting six super-lights, and the west window at Bunwell (where the lower part of the tower is probably of c. 1460) has similar tracery with ogee heads to the main lights. At Loddon (c.1487-1504), the basic design of the west window is similar, but the use of a very flat segmental-pointed arch gives the window a different appearance.

A simple and very common treatment of a two-light window opening is to form an oculus at the head, enclosed either by a curved or straight-sided hexagon. As well as being a motif found in Decorated church buildings, for example at Norton Subcourse in c. 1319, it is found in a number of much later structures. Arminghall (c. 1474), Bressingham (c. 1431), Tharston (c. 1492) and Tivetshall St Margaret (c.1456) towers have windows of this type and in some cases variations of the motif occur beneath two-centred normal arches at one level, and beneath two-centred segmental arches at other levels in the same tower. A very much larger version of the design occurs in the sound-windows at Loddon (c. 1487-1504). The octagonal belfry at Thorpe Abbots (c. 1503) also has similar motifs in the sound windows which are repeated in flushwork on the alternate faces. At Stratton St. Michael (c. 1485), the motif has been expanded to assume the form of part of a regular reticulation pattern.

The four sound-windows at Forncett St. Mary have a pair of ogee-headed main lights and a central mullion which divides to form two symmetrical units, each of which has a pair of identical super-lights; there is also a small quatrefoil at the head of the window. The bequest in 1432, although stylistically early for windows with four-centred heads, may well be reliable for dating the design of the upper part of the tower, since there is firm evidence for windows of this type in the chancel at Hardley which was constructed between 1456 and 1462[2]. A specific bequest in 1436 provides a date for the west window at Topcroft which is similar to the windows at Forncett St. Peter, but has 'onion-shaped' heads to the main lights and no motif in the space at the division of the central mullion: the design is unusual in south Norfolk, but has many parallels in the Norwich churches, for example St. Peter Hungate which was completedin 1460[3]. Similar tracery, with a rather more rectilinear appearance and with a winged motif at the head, appears in the west window at Tharston (c. 1492). At Shotesham St. Mary, the two lights are divided by a mullion which reaches almost to the head of the window, the lights having ogee heads supporting a pair of super-lights of unequal sizes, and a

1. They seem to be similar to the work of Norwich masons as, for example, at Wighton where James Woderofe was employed to rebuild the chancel. (C&C).
2. C&C. 3. C&C.

similar design is noted at Hedenham (c. 1417), where the central mullion goes through to the head of the window. The west window at Shelton (c. 1387) has a pair of lights with shallow heads supporting super-mullions and a pair of super-lights, and there is also a horizontal bar connecting the super-mullions.

The number of variations on comparatively simple themes is endless, and the geometrical ingenuity of the designers of traceries is remarkable. It is not, at present, possible to make any reliable attribution of types of tracery to particular schools, with the possible exception of those noted in the towers at Tharston (where the rectilinear style and the treatment of the head of the window suggests a close parallel with the earlier work of John Marwe at Thurlton[1]), and Forncett St. Mary (where similarity with the work of Robert Everard is recognised[2]). It is also true to say that a strict division of traceries into 'Decorated' and 'Perpendicular', with a corresponding attribution of date, is unreliable in view of the survival of popular motifs over long periods.

CONCLUSIONS.

There is no doubt that during the Anglo-Saxon and Norman periods the prevailing type in south-east Norfolk was the round church tower, and, apart from the three central towers at Aldeby, Fundenhall and Gillingham, the north-east tower at Chedgrave and the lower parts of the west tower at Pulham St Mary, no early square towers have been noticed: by comparison, of the 34 round towers in the area studied, a post-Norman date has been assigned only to Shimpling. A few square towers are assigned on stylistic grounds to the 13th and 14th centuries, but it appears that most of the remaining pre-Reformation towers are the result of building during the period from the end of the 14th century through to the mid-16th century, corresponding to the Perpendicular style of architecture.

In other parts of Norfolk the Reformation left a number of incomplete towers[3] such as Stalham, Toftrees and Kimberley, but in south-east Norfolk only Bixley tower seems to be structurally unfinished, although several towers lack the finer points of a worthy parapet. There are a very few post-Reformation towers in the area, although that at Yelverton in a notable example, and Victorian work is equally limited.

Perhaps the most remarkable fact is that, despite the stresses of weather and the constant ringing of heavy bells, so many old towers have survived: it is pleasing to record that in three of the oldest towers identified, at Aslacton, Forncett St. Peter and Tasburgh, bells are still regularly rung in full circles.

1: C&C.
2. See P. Cattermole, 'Hardley Church', *Norfolk Archaeological Rescue Group News*, Norwich, 1983
3. For dates see C&C.

IV. BELLS.

INTRODUCTION.

There is very little documentary evidence for the number of bells in church towers in south-east Norfolk before the 1552 Inventory of church goods[1]. Numerous references to funeral ringing in wills refer to bells, or ringers, in the plural[2], and the evidence of remaining pre-Reformation bell frames is that single bells were the exception, and that rings of three or four bells were the most common. A number of bequests for the addition of bells to those already hanging in church towers also implies rings of three or more bells. As would be expected bequests towards new bells frequently followed those to work on the construction of a new tower or the addition of a bell-chamber to an older tower[3]. Frequent references to 'the great bell' or to a new 'tenor bell' suggest that in many cases new bells were added to the heavy end rather than the lighter end of the ring[4].

In other parts of Norfolk there is evidence for the transfer of bells from religious houses suppressed between March 1536 and March 1540 to parish churches[5], and it is likely that some of the churches in south-east Norfolk acquired bells in the same way[6]. The Court of Augmentations, having given instructions for the rapid dismantling of the monastic buildings, the sale of bells, together with lead from roofs and other building materials, probably took place on the spot after the surrender of each house[7]. St. Andrew's church, Norwich,

1. H. B. Walters, 'Inventories of Church Goods (1552)', see p. 22. In south-east Norfolk there were 4 rings of five bells, 26 of four bells, 45 of three bells; 18 churches had a pair of bells and 8 churches had a single bell.
2. As an example, the will of Thomas Chapman of Barnham Broom (NRO. NCC Wolman 21) contains the following
'I will that every creature shall have at my dededay at the first dirige brede and chese and drink and the same tyme iiij Ryngers yche of them j d. and so continuyng to nyte after ringing eche of them iiij Ryngers j d.'
3. See, for example Breckles, Tharston. C&C.
4. See notes on Ashwellthorpe (p. 80); Tivetshall (p. 184), Tharston (p. 141), for example.
5. 255 houses in the Diocese of Norwich were suppressed (R. Taylor, *Index Monasticus*, London, 1821, appendix) between the dates suggested (J. D. Mackie, *The Earlier Tudors*, Oxford, 1952, pp. 377, 399 and D. Knowles, *Bare Ruined Choirs*, Cambridge, 1976, p. 266.)
6. The Denton churchwardens appear to have acquired the materials for a roof from Langley Abbey in 1538: see NRO. PD 136/56.
7. Knowles, *Op. cit.*, p. 266.

acquired the great bell from the tower of the Dominican friary in 1538[1], and the churchwardens of St. Lawrence's church in the same city bought four bells from the College of St. Mary in the Fields[2]; at Walsingham, in 1538[3] the Guild of the Blessed Virgin Mary had given 40 shillings

> 'in part payment for the great bell of the late Friars Minors',

presumably to hang it in the tower of the parish church[4].

It appears that the first steps towards diverting the valuables of the parish churches into the royal treasury were taken before the accession of Edward VI[5], and the 1552 Inventory for Roudham[6] carries the following memorandum:

> 'Memorandum that ij belles were carried away by Hugh Blye and William Faconer and Richard Coste and Sir francis Lovell Knyght wayenge by estimacion viij c. and this was done in the xxxviij^th yere of Kyng Henry the viij^th without the consent of the parisheners.'

A definite instruction in the early years of Edward's reign, dated 15 February 1549, appointed Commissioners to summon incumbents and churchwardens and to require from them inventories of the remaining church valuables[7]: it was also ordered that any church property sold should be restored unless it could be shown that the sale had taken place with the agreement of the parishioners and that the proceeds had been used charitably. A typical return from such an enquiry remains for Woodton church, dated 3 Edward VI, in which the churchwardens stated that they had sold a bell weighing 11 cwt for £10 and had used the proceeds to recast the lead on the south side of the church, to whitewash the church and mend certain windows, to make a poor-box and to mend a bell-clapper: two paraphrases were purchased and half the cost of a new bible was provided[8].

1. CBN., p. 171.
2. CBN., p. 178.
3. J. Burtt, 'Little Walsingham Guilds', *Memoirs communicated to the Annual Meeting of the Archaeological Institute in Norwich, 1847*, London, 1847, p. 151.
4. The pre-Reformation bell-frame in the tower of the parish church shows signs of having been adapted to take a much heavier bell than that for which it was designed.
5. W. Rye, 'Norfolk Church Goods Temp. Edward VI', *Norfolk Archaeology*, Vol VII, Norwich, 1872, p. 22.
6. HBW.
7. Rye, *loc. cit.*, p. 24.
8. *The East Anglian*, Vol IX, Norwich, 1901-1902. p. 320.

It would appear that the instructions of 1549 were not carried out with sufficient speed to satisfy the King's advisors, and further Commissioners were set to work in the autumn of 1552 to produce inventories for all 690 churches in Norfolk[1]. The Inventories give, in addition to the list of church goods, a schedule of the plate and bells which would be allowed to remain after the Commissioners' work had been carried out in full, and few churches would retain more than a single bell.

In January 1553 the Commissioners were ordered to collect all the inventories and to bring in to the King's treasury all the ready money; plate and jewels certified as remaining in the churches[2], but other less valuable items, such as vestments and altar cloths, were to be sold in the parishes, as were other metals remaining, with the stated exceptions of 'great bells' and 'saunce bells', which were to remain until the King's pleasure in the matter was known. The effect as felt in the parishes is exemplified in the North Elmham churchwardens' accounts, where the churchwardens appeared before the Commissioners, gathered at Walsingham in 1552, to present their Inventory. The actual confiscation of the church goods is recorded later[3]:

> 'Item for our Costs and other Comanded to bryng the Chyrche Goods with their Inventarye of the same, Bells and a Payer of chalyce onlye excepted, before the Kyngs Mayesties Commissioners at Lenne the iiijthe day of June in the vijth yere of hys gracs Reygn vj s.'

The date of confiscation, 4 June 1553, is close to that of the death of Edward VI, 6 July, 1553. It would seem that difficulty of access prevented the rapid removal and sale of the bells until Mary's accession put a stop to the Commissioners' activities.

There is little doubt, from the 1552 Inventories, that many parishes had already sold bells and other church goods in order to convert the property to local uses rather than to allow the Commissioners to realise its value[4]. At Wymondham, for example, where the parishioners had bought the bells from the Abbey tower at the Suppression[5], six bells were sold to an Ipswich merchant for £62, leaving only two bells in the parish tower in 1552. Although there seems little doubt that the upheavals of Edward VI's reign caused the loss of a number of bells from the parish churches, their destruction was in no way as extensive as is sometimes supposed.

1. See p. 346, note 1. 2. Rye. *Op. cit.*, p. 26.
3. A. G. Legge, *Churchwardens' Accounts in North Elmham*,, Norwich, 1891, p. 68.
4. HBW, *passim*.
5. Will of John Drye 1538, NCC Godsalve 242:
'Also I gyve unto the exchaunge and purchase of the bells xx s. to be payd by myn executors unto the churchewardyns of the same churche at suche tyme as the sayde bells shalbe exchaunged and perfightly hangen up in the steple of the sayde churche.'
The sale of bells is recorded in the churchwardens' accounts (retained at Wymondham Abbey, photocopy in the Colman-Rye Library, Norwich).

It is frequently stated in guide books to churches, and in other places[1], that Edwards VI's commissioners 'took away' bells from the church towers, leaving only the smallest, with much other valuable property: the existence of many towers containing more than a single pre-Reformation bell, however, shows that such a practice was not widespread, although there are a few indications that the Commissioners, anticipating the King's command, had seen to the removal of church bells before the making of the 1552 Inventory[2].

THE RISE OF CHANGERINGING

The rise in popularity of scientific changeringing during the 17th century inspired churchwardens to seek ways of increasing the numbers of bells in the towers of the parish churches[3], since the minimum number of bells on which satisfactory changes can be rung is five: on five bells, the extent of 120 changes, in half-pulls, provides about 5 minutes ringing, and a ring of six bells gives additional interest (720 changes, 30 minutes). The earliest known ringing society, The Scholars of Cheapside, was founded in 1603[4], and early 18th-century performances in Norwich suggest that changeringing was, by then, very well established in the city[5].

It would appear that there was considerable activity and interest in south-east Norfolk during the first half of the 17th century, and by 1641 there were at least 15 rings of five bells and one ring of six bells. The 1552 Inventory[6] records rings of five at Bressingham, Brooke, Redenhall and Tibenham and dated inscriptions[7] on bells suggest the completion of rings of five at Forncett St. Peter (1602), Aslacton (c. 1614), Shotesham All Saints (1615), Loddon (before 1616), Kirby Cane (1626), Ellingham (1629), Thurlton (1632), Broome (1640), Winfarthing (1640) and Woodton (1641). The ring of six at Saxlingham Nethergate appears to have been complete by c. 1617.

Complete rings of 17th-century bells are comparatively rare and it was apparently common for a bell-founder to create a ring of five or six bells by splicing older bells in with new bells. At Shotesham All Saints, for example, two pre-Reformation bells remained when the ring of five was completed and there are numerous similar examples in other parts of the county. Only at Aslacton, Thurlton and Woodton have complete rings of five or more 17th-century bells remained[8].

1. *Guide to Southrepps Church*, Southrepps, 1983, for example.
2. See HBW, *passim*.
3. CBE, p. 81.
4. F. Sharpe, 'Introduction', *Tintinnalogia or the art of Ringing*, London, 1668, reprinted Bath, 1970.
5. See, for example, the steeple boards recording many performances on the bells of St. Peter Mancroft, St Giles and St. Michael at Coslany, Norwich in the early 18th century. The first recorded extent of Triples (5040 changes) was rung at Mancroft in 1715.
6. HBW.
7. See survey notes for individual churches.
8. See notes on Aslacton (p. 91), Thurlton (p. 69) and Woodton (p. 283).

Another method of increasing the number of bells in a ring was to remove the heaviest bell and cast two or more lighter bells from the metal. The churchwardens' accounts at Alburgh show that this was the method by which the bells were increased from four to six in the early 18th century[1], and those at Long Stratton show that a similar exercise (when a bell of approximately 12 cwt provided the metal for two bells weighing approximately 3 1/2 cwt and 4 cwt) was almost self-financing, the bell-founder taking the excess metal in payment for the work of recasting[2]. Such activities did not meet with universal approval from parishioners who were, apparently, much attached to the deeper notes of their heavier bells, and the inscriptions on the two smaller bells at Banham[3], cast from the metal of the tenor bell of a heavy ring of five, make this clear:

'PULL ON BRAVE BOYES IM METTLE TO THE BACK
BUT WILL BE HANGED BEFORE ILE CRACK'

'WE TREBLES CAM BY SMALL CONSENT
OUR BIRTH I HOPE WILL BRING CONTENT
TWINS FROM OLD TENOR OUR LOST OLD DAD
SOME WE MAKE MERRY BUT SOME ARE MAD
THOMAS NEWMAN OF NORWICH MADE ME
MR. WM. LEECH 1741'.

When a diatonic ring of four or five bells is increased by the removal of the heaviest bell (sounding the keynote of the scale), the character of the ring is much altered. At Long Stratton, for example, in 1724[4], a ring of four bells sounding the notes B flat, A, G and F of the scale of F major appears to have been converted into a ring of five sounding D, C, B flat, A and G. The resulting ring in the doleful key of G minor was clearly not appreciated by the churchwardens, who employed a bell-tuner in 1743[5]. Examination of the bells shows that he was able to put the bells into the key of G major by sharpening the B flat bell by a semitone and, in the process, removing approximately 1/2 inch (15 mm) of its diameter.

Many bells examined show signs of tuning[6] which would probably have taken place when a ring was altered in character, usually by the

1. See notes on Alburgh, p. 189.
2. Long Stratton churchwardens' accounts. NRO., PD 122/33.
3. Visited June 1979.
4. See notes on Long Stratton, p. 131. 5. *Ibid.*
6. Chipping the outside of the lip of the bell sharpens the note, chipping the inside of the soundbow flattens the note, chipping inside the bell at the waist alters various harmonics. Where a lathe has been employed for the tuning, the results are usually good, but tuning by means of a chisel is much less reliable. Itinerant bell-tuners, using chisels, practised as late as the end of the 19th century. Reference is made to such in a letter about the Weybread bells among the Candler Mss (Garsett House, Norwich). The Revd. W. Hutt writes to Captain A. P. Moore in 1879 as follows:
'My impression is that the Weybread peal slightly tuned by such a man as old Haley would be almost a none-such. Do not, however, have the bells altered until you have a more reliable opinion than mine'.

addition of extra bells. To tune a bell requires the removal of metal from the inside of the soundbow to flatten the note, and from the outside of the lip to sharpen the note, the latter process having a notoriously bad effect on the tone of the bell[1]. It is of interest that a contract for a new bell at Diss in 1691, to increase the ring from five to six, requires that the work should be done without recourse to any chipping or tuning[2]. There is little doubt that many of the 17th-century and earlier founders were able to cast a ring of bells in tune, but that the addition of bells to an existing ring, even in comparatively recent years, often posed a problem[3].

A number of rings of bells, such as those at Aslacton (dated 1607, 1607, 1604, 1614, 1614) consist of bells which are close in date and it is likely, from the frequent incidence of tuning marks, that the Norwich bell-founders enjoyed sufficient business to make it worthwhile to cast a stock of bells which could be made up into rings as required.

17TH-CENTURY MUTILATION OF BELLS

The effects of the Civil War, and the consequent disruption of church life, are reflected in the very small number of bells cast between 1641 and c. 1660[4], and, although there is no surviving evidence to show that the Parliamentary Visitors destroyed bells during the Visitations of 1643 and 1644, they were concerned to remove 'superstitious' inscriptions. A local example of the mutilation of church bells is found in the churchwardens' accounts for 1644 at Bressingham[5]:

> 'Item paid vij of May to Captaine Gilley for the viewing of the church for abollishing superstitious pictures vj d.
>
> Item paid to John Nun for 2 dayes work and for taking down of glas and pictures about the church and the letters about the bells iij s. iiij d.'

The inscriptions on the Bressingham bells were certainly heavily mutilated[6], although L'Estrange was able to make out the form of the inscriptions which remained on two of the bells in his day[7]:

> 'Sancte Johannes Ora Pro Nobis'
>
> 'Sancta Anna Ora Pro Nobis'.

1. As an example Pulham St. Mary 4/8 should be heard.
2. NRO., PD 100/77.
3. The Tharston treble (added in 1907) was almost a quarter-tone sharp until tuned at the Loughborough foundry in 1975, for example.
4. See CBN., CBS., CBEx., *passim*.
5. NRO., PD 111/69.
6. See notes on Bressingham. p.163.
7. CBN., p. 106.

It is clear from the record of William Dowsing's itinerary through Suffolk[1] that such inscriptions would have been offensive. Captain Gilley seems to be identified by entries in 1643 in the churchwardens' accounts at Banham[2]:

'to Cracknell of Diss for glasing work at the Church when the Imagerie Glass was taken down by order of the Parliament by the ex[a]view of Mr Gillie of Hoptons in Suffolk being imployed by the Parliament for the same purpose £02-13-01.

While Mr Gillie's instructions relating to the glass at Banham seem to have been carried out, four pre-Reformation bells in the tower retain their invocations to St. Anne, St Peter, St Nicholas and the Archangel Gabriel[3].

Bells with inscriptions which were probably defaced at about this time have been noted at Bressingham[4], Shimpling (where the inscriptions are almost illegible)[5], Tharston (Nos Thome Meritis Mereamur Gaudia Lucis)[6]; Tivetshall St Margaret (Sancte Edmunde Pro Me Intercede)[7] and Wacton (two bells: Sancta Maria Ora Pro Nobis; Ave Maria Gracia Plena Dominus Tecum)[8].

THE FURTHER EXPANSION OF CHANGERINGING

The second half of the 17th century saw the completion of rings of five at Tivetshall St Mary and Gissing (1670) and at Bunwell (1699). Rings of six were completed at Tivetshall St. Mary (1674), Bergh Apton (1678), Diss (1691) and Brockdish (1697)[9].

During the 18th century changeringing was extremely popular as a pastime, and the ringing of the first complete peal of 5040 changes in Norwich (1715) is a measure of local enthusiasm[10]. Seven rings of five and eleven rings of six were completed during the 18th century, but the most significant development was the interest in eight-bell ringing. The earliest complete octave in south-east Norfolk[11] was

1. C. H. Evelyn White. *The Journal of William Dowsyng of Stratford, Parliamentary Visitor appointed under the Earl of Manchester for demolishing the superstitious pictures and ornaments of churches etc. within the county of Suffolk in the years 1643-1644.* Ipswich, 1885, *passim*.
2. Churchwardens accounts, seen at the church (1983).
3. Visited June 1979. 4. See p. 163. 5. See p. 181.
6. See p. 141. 7. See p. 184.
8. See p. 155.
9. See notes on Gissing (p. 174), Tivetshall St. Mary (bells now lost following the fall of the tower - c. 1939 - but a ring of six was reduced to five by Faculty in 1702: see NRO., FCB 1/1, fo. 442), Bunwell (p. 95), Bergh Apton (p. 47), Diss (p. 170) and Brockdish (p. 191).
10. See p. 349, note 5.
11. The earliest octave in Norfolk was King's Lynn, 1659 or 1660, (see St. Margaret's churchwardens' accounts, NRO. PD 39/144, fo. 493), followed by Norwich St. Peter Mancroft, 1675, (CBN., p. 183), Aylsham, 1700 (CBN., p. 94), Norwich St.Andrew, 1705 (CBN., p. 170). Diss appears to be the fifth church in the county of Norfolk to have a complete octave.

probably at Diss, where augmentation from six seems to have taken place in 1713. The heavy six at Redenhall was increased to eight in 1736 and a very light ring of eight was completed the following year in the neighbouring village of Alburgh. No other ring of eight ws completed until the Loddon bells were increased in number in 1853[1].

The first three-quarters of the 19th century saw little further expansion in the number of rings of bells, adding only three fives, one six and the octave at Loddon. In 1877, largely at the instigation of the ringers at Redenhall and Alburgh, the Norwich Diocesan Association of Ringers was formed[2]. The establishment of a ringing organisation, under the patronage of the Bishop of the Diocese and with the support of a number of the clergy did much to spread interest in changeringing, and there was a further significant burst of activity in the provision of new rings of bells. The years before 1914 saw the completion of three new rings of five, four rings of six, and octaves at Pulham St. Mary (1895), Pulham Market (1903) and Saxlingham Nethergate (1908). Since 1914, only one new ring of bells has been provided, a very light six at Scole in 1965. Six rings have been increased in number: four bells were increased to five at Aldeby (1946), and rings of five were increased to six at Dickleburgh (1958), Shelfanger (1974) Forncett St. Peter (1982) and Tacolnestone (1983)[3].

The enthusiasm for eight-bell ringing during the first forty years existence of the Norwich Diocesan Association of ringers was in itself commendable, but it had the effect of drawing ringers away from the towers with the rings of five and six bells. The Association's Annual Report for 1955 shows a total of 17 rings of five or more bells, over one-third of the total number, in poor or unringable condition as a result of neglect. The situation in 1984 is only slightly better[4].

THE LOSS AND DESTRUCTION OF BELLS

Although the growth of interest in changeringing caused an increase in the number of bells in certain towers, there are several towers which have fewer bells in 1984 than they had in 1552[5]; and the increase in the number of towers containing a single bell from eight in 1552 to 30 in 1984 is significant.

For the most part, those churches returning a single bell in the 1552 Inventory were either those without towers, with very small tower, or those which had formerly had more bells but from which confiscation had already taken place[6].

1. See notes on Diss (p. 171), Redenhall (p. 204), Alburgh (p. 189) and Loddon (p. 271).
2. Norwich Diocesan Association of Ringers, *Annual Reports*, current from 1877.
3. *Loc. cit.*, see individual years.
4. *Loc. cit.*, see 1983 report.
5. HBW., *passim*.
6. See, for example, Inventories for Diss (Depwade), New Buckenham (Shropham) and Old Buckenham (Shropham) for examples of premature confiscation, HBW.

The records of the Archdeacon's Visitations[1] (from 1699) show that in many cases church towers and bells were sadly neglected. As an example, the 1699 list of defects for the Depwade Deanery[2] includes the following:

Ashwellthorpe	one split bell
Aslacton	two bellropes wanting
Fundenhall	one split bell
Hardwick	the tower in need of repair
Moulton	one bell split
Stratton St. Mary	the clock bell missing
Stratton St. Michael	the tower down to the sound-windows
Tasburgh	the bellframes defective
Tharston	one spilt bell

Such a list is typical of those returned for visitations throughout the 18th century.

Faculty petitions show that a few bells were lost through the collapse of a tower and the lack of funds for its rebuilding: cases noted are at Burston (a ring of five lost in 1754), Great Moulton (a ring of five lost in 1762) and Thelveton (two bells replaced by a much smaller single bell in 1761)[3]. It seems, too, that at churches where there had been no enthusiasm for changeringing in the 17th and 18th centuries, the churchwardens had been content for various reasons to allow bells in excess of the legal minimum of a single bell to be sold. The Faculty Books for the Diocese of Norwich show that many bells were disposed of during the 18th and early 19th centuries and that the monies raised from the sale were often applied to general repairs to the church fabric. A few examples of such petitions, some of them from churches outside the immediate area under consideration, are worth examining.

There are many examples of the straightforward sale of bells to cover repairs. At Stratton St. Michael in 1766 the sale of two bells helped to pay for taking down the top stage of the tower, totalling some 20 or 30 feet, and securing the remaining stump with iron cramps and bands. At Marlingford in 1776 the petition recites that there were three bells, the largest of which weighed 12 cwt and was sufficient for the needs of the parish: the proceeds of the sale of the two smaller bells were to be applied to taking down the north aisle and making good the church wall. At Hellington, in 1808, a bell was sold to provide funds for paving the church floor, lowering the church

1. NRO., NDR., Series ANF/1.
2. NRO., ANF/1/1.
3. Burston Faculty, NRO. PD 101/14.
   NRO., FCB., Series.
   Moulton 2/3/149.
   Thelveton 2/3/140.

walls by 3 feet and covering the roof with Welsh slates[1]. At Geldeston two bells were sold in 1814 when the upper stage of the tower, which was reported as being ruinous and dangerous, was reconstructed on a smaller scale large enough to contain only a single bell[2].

Excuses for the poor state of church fabric were numerous, as, for example, at Brandon Parva, in 1764, where we are told that 'the church is very antient and stands very much exposed to high winds' resulting in its ruinous condition and the necessity to sell two of three bells. At Hockham, in 1742, the church was so dangerous 'that the inhabitants cannot assemble together for the hearing of Divine Service without apparent danger of their lives': the steeple had been down for almost 100 years and the four bells were of no use. At Tivetshall St Mary in 1702 when one of the six bells was sold the church was said to be 'in great danger of falling to the ground'[3].

Improvements to the interior furnishings of the church were often quoted as a reason for the sale of bells. At Arminghall, in 1753, two cracked bells were to be sold and the church was to be paved, re-seated and provided with a new pulpit with the proceeds. At Burgh St. Peter, in 1794, the sale of bells 'one of which is cracked throughout and is of base metal' was to provide a sum of £8 'to be expended in the purchase of new Cloths for the Pulpit and Desk and other ornaments for the church'[4].

Occasionally, churchwardens proceeded with the sale of bells without formal permission, and a Faculty petition at Thorpe Abbots, in 1735, contains the Episcopal admonition to Mr Churchwarden Eaton that he did 'rashly and without first consulting or having the consent of us or our Vicar General dispose of or convert one of the bells belonging to the said church': the proceeds had been used to provide a clock for the church[5].

More recent losses of bells include the theft, in 1969, of two 16th century bells from the tower at Caistor-by-Norwich: only the diameter of the largest bell, being too big to pass through the bell-chamber window opening, saved it from a similar fate[6].

1. *Loc. cit.*
   Stratton 3/4/33.
   Marlingford 3/5/97.
   Hellington 5/8/206.
2. *Loc. cit.*
   Geldeston 5/9/123.
3. *Loc. cit.*
   Brandon Parva 2/3/211.
   Hockham 2/2/55.
   Tivetshall 1/1/442.
4. *Loc. cit.*
   Arminghall 2/3/13.
   Burgh St. Peter 4/7/12.
5. *Loc. cit.*
   Thorpe Abbots 1/1/642.
6. Information from Mr G. Ford. Churchwarden (1983).

CONCLUSION

During the course of the survey, 373 bells were examined[1], and the most remarkable feature noticed is the survival of 58 bells cast before c. 1552[2]: this represents almost 20% of the 303 bells recorded in the 1552 Inventory; and the proportion is very high when one considers the many possible ways in which bells can be damaged, the pressures to dispose of disused bells for their monetary value, and the unbelievable neglect seen in so many towers at the present time[3]. The strength of the pre-Reformation Norwich bell-foundry is clearly seen in the large proportion of bells from that source.

Local foundries, particularly that at Norwich, also provided the largest share of bells between the Reformation and the extinction of the Norwich foundry in c. 1755. After 1760, the London bell-founders provided most of the bells required, and there are significant numbers from the foundries at Loughborough and Downham Market.

Assessment of the bell-founder's craft, based on technical and musical qualities, must necessarily be subjective, but there is little doubt of the fine quality of some of the bells remaining in the towers of churches in south-east Norfolk. The largest pre-Reformation bell in Norfolk, and one of the finest, is the 24 cwt tenor bell at Redenhall which is excellently cast and has a beautifully-formed inscription. Some of the smaller bells, too, are of superlative quality and it is the considered opinion of one local, professional founder[4] that the standard of technology and craftsmanship exhibited in some of the early bells he had seen could not be improved on by modern methods.

Many of the 17th century and 18th century bells are good, but few of them approach the standards of the earlier founders at their best. The five heavier bells at Woodton (1641) are respectable and the six at Tibenham (1785 - one recast in 1864) are of excellent tone. The writer remembers the much-quoted adage of an older generation of ringers in south Norfolk that the best rings of bells in the county are the five at Fundenhall, the six at Tibenham and the octave at Redenhall.

1. See appendix note on the founders of the bells recorded, pp 391-458.
2. The chosen date being that of the Inventory.
3. The figure is 15.5% as a percentage of the total of all existing bells. The following similar figures are given by F. Sharpe in *The Church Bells of Herefordshire*, (Launton, 1966-1975) p. 612:

Monmouthshire	3.5% (1940)
Berkshire	3.75% (1970)
Oxfordshire	4.5% (1953)
Worcestershire	5.5% (1930)
Wiltshire	6% (1927)
Suffolk	15% (1890)
Herefordshire	11% (1975).

4. John Capps, Esq., of the Thurton Foundry.

V. BELL-FRAMES

BELL-FRAMES IN GENERAL.

INTRODUCTION.

The construction of bell-frames and the hanging of church bells has left little documentary evidence, apart from items of regular maintenance which invariably appear in churchwardens' accounts giving some idea of the basic equipment of a bell-chamber. The churchwardens' accounts at East Dereham give the earliest surviving local record of the payments made for ringing and maintaining church bells. In the earliest extant accounts, for 1419[1], it would appear that the ringing on church festivals was entrusted to the minor clergy:

> 'Item solutis clericis pro pulsatione in anniversario pro benefactoribus ecclesie in septimana pasche vj d.'

The 1466 accounts show payments for ringing on three occasions:

> 'Item payd to the ryngers for ryngyng for alle cristen sowlys on Estern Tuesday iiij d.
> Item payd to the ryngers on holy thursday iiij d.
> and on corpus christi day iiij d. for ryngyng the tyme of procession as it hath ben of old usage iiij d.'

The regular ringing of the bells for services, which would have taken place in addition to the special ringing recorded, gave rise to a constant succesion of minor repairs to the bell-gear, including the wheels, ironwork and clappers[2]. There is a certain resignation evident in the record of the frequent replacement of the buckled leather straps by which the clappers were hung from the crown-staples:

> 'Et solutis pro Whyt leder pro reparatione lez Bauderykes erga natura eodem Anno una cum factura eorundem v d.'

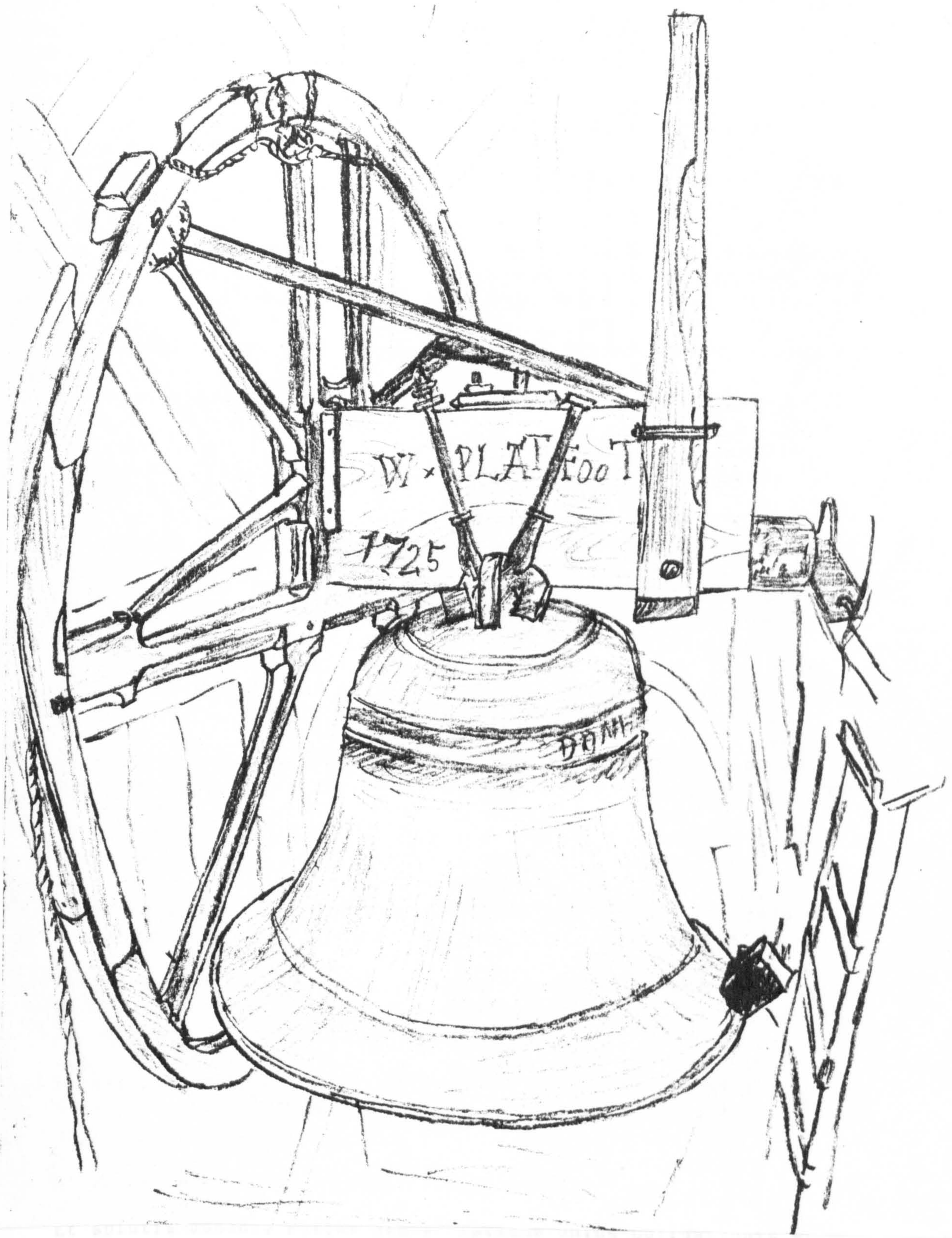
The bells were secured to their headstocks by iron bolts which passed through the cannons, or loops, cast onto the heads of the bells. The assembly was kept tight by driving wedges through slots in the tops of the bolts against stout washers[3]. There were also bands of iron through the cannons which were nailed to the vertical sides of the headstocks. The following entry refers to such an arrangement:

> 'Et solutis Richardo Newman pro factione unius le coler ad le stok ac reparatione de lez boltes et Feder lockez cum clavibus emptis ad idem opus xxj d.'

An item in the accounts for 1486 is of considerable interest, showing that the bells were then being rung in full circles[4]:

> 'Et solutis Thome Wryght pro factione unius steye pro tertie campane j d.'

1. See p. 296, note 1. 2. See sketches, pp. 333 and 358.
3. *Ibid.* 4. The stay is used to balance the bell upside-down.



Sketch of 18th century ringing gear.

The numerous minor repairs to the clock and bells were done by local blacksmiths and carpenters whose names appear in the records as recipients for many other items, such as re-staving a ladder and making the rowell light; but major works required the attention of craftsmen from further away. The construction of a new bell-frame in the 'clocher' (which appears distinct from the 'campanile') was an occasion to call in two experts who travelled long distances to give their advice:

'Et solutis pro expensis duorum carpentarium venientium de Bokenham et Bradenham pro le frame campanarum infra le clocher supervidendo et cum eis colloquendo pro facture unius nove frame dicto anno xij d.'

A detailed record of their work has not survived, but the accounts for 1488 give an indication of the work involved in removing a broken bell from the tower for recasting, and its eventual rehanging:

'Et solutis Thome Wryght pro depositione tertie campane vj d.

Et solutis in potationibus diversarum personarum apud iuvans iij d.

Et solutis Roberto Boleyn emisso usque Norwic' ad loquendum cum Richardo Brasyer et suis expensis et labore viij d.

Et solutis pro expensis Richardi Brasyer apud Derham una cum regardo dato servienti ipsius Richardi Brasyer xv d.

Et solutis Johanni Baly de Norwico pro effusione dicte campane iij li. vj s. viij d.

Et solutis in expensis et regardis datis ibidem tribus temporibus ij s. iiij d.

Et solutis pro labore dictorum prepositorum existentium eodem tempore ij s.

Et solutis Roberto Deye pro cariagio et recariagio dicte campane v s.

Et solutis Thome Wryghte pro le stockyng et le wyndyngup eiusdem iij s. iiij d.

Et solutis Richardo Newman pro factione unius le coler ad le stok ac reparatione de lez boltes et Feder lockez cum clavibus emptis ad idem opus xxj d.

Et solutis Willelmo Jeckys et Richardo Style emissis versus Norwicum ad interloquendum cum prefato Richardo Brasyer et Johanne Baly xvj d.

Et solutis in expensis tribus temporibus vj d.

Et solutis Johanne Pylche pro scriptione unius obligationis et unius indenture concernentium dicte campane iij d.'

THE INSTALLATION OF A BELL-FRAME IN A NEWLY-BUILT TOWER.

In the contract for the building of the new tower at Helmingham, Suffolk[1], dated 3 February 1488, there is a clause which requires that no bells should be hung until a space of four years had elapsed from the completion of building work, and it seems likely that this sensible precaution allowed the tower to settle before imposing on the fabric the stresses caused by ringing bells in full circles.

Examination of a large number of old frames shows that there is rarely any sign of disturbance of masonry at the points of entry of the massive foundation timbers into the tower walls, and it seems almost certain that these timbers would have been secured into the tower walls during building. The foundations having been installed and a floor laid, the trusses of the bell-frame could then be assembled with comparative ease at a later date, when the tower was ready for the bells. Measurement of the clearances in the traps in old floors, and comparison with the widths of the bell-pits, shows that in a number of cases the bells were hauled up the tower and through the floor before the bell-frame was completely assembled[2].

The only surviving accounts discovered locally for the construction of a bell-frame in a newly built pre-Reformation tower are those at Swaffham. The monies received towards the bell-frame appear as follows in the churchwardens' accounts[3]:

> 'Thes be the Receytys Receyvyd be the hands of us Aubery Gryggs, Watyr Payn and John Newell Church revys of the Church of petur and pawle of Swafham market sythens the last counte made the iiij^te^ sondaye of Advente the yere of owre lord God mccccxiiij^te^ (et anno regni regis Henrici VIII sexti).
>
> Rec. of the plowmony to the reparation of the Stepull xxxvj s. viij d.
>
> Receyvyd be the hands of Sir Robert Boson of the good wille and mynde of Margaret Sergeaunt to the edifyeng of the belle frames xiijs. iiijd.
>
> Receyvyd be the good wille of the Abbot of Westmynster toward the reparation of the belle frame be the hands of Thomas Leman Vyker xx s.
>
> Rec. of the goodwylle of the brethren and systern of saynt peturrys gylde be the hands of Tebald Bryell to the hangyng up of the bellys vj s. viij d.
>
> Rec. of the plowemony to the reparation of the bellys as it apperith in the plowe booke anno regni regis henrici octavi septimo xix s. v d. ob.

1. L. F. Salzmann, *Building in England down to 1540*, London, 1953, pp. 547-549.
2. See notes on Woodton (p.283), for example.
3. NRO. PD 42/71, extracted from ff. 53-59.

'Rec. be the hands of John Newell for the profer of Thomas Leman, clerke, in full payment of his profer for the hangyng up of the bellys x s.

The payments for work on the bell-frame and on the purchase of materials are recorded at intervals during the period between Advent 1514 and Advent 1516, and are here extracted:

Payd to the belwrygth for his expences and hys arnest mony xij d.

Payd in mete and drynke and wages whan the tymber was sett home from Mr Awdeleys xxij d.

Payd for caryngeof his takull viij d.

Payd in Expences that same tyme the Wrygth whas hereto sorte owte the tymber vij d.

Payd to Edmunde Aleyn in arnest whan we made the bargeny with hym in party of payment of xj li. vj s. viij d.

Payd to Edmunde Aleyn in Arnest whan we made the bargeny in the weke after Wynwall xij s.

Payd for a tre at Est bradenham x d.

Payd for mete and drynke and other expences when they did swarre the tymber owte a towne xx d.

Payd in expences for mete and drynke whan the sollers wher made cleyn iiij d.

Payd to Edmund Aleyn Wrygth in the weke befor passyon sondaye last past in party of payment of his bargeny xviij s.

Payd for a tre at Est bradenham viij d.

Payd for caryage of a tre xij d.

Payd to Edmund Aleyn the yonger in palmesonday weke in party of payment of hys bargeny iij s. iiij d.

Payd to John Tennant of Schypdam for iij trees x s. iiij d.

Payd for a lode of woode carynge form Schypdam xiiij d.

Payd in expences whan the tymbyr whas set from thens vj d.

Payd for a lode of tymbyr caryng from Sametony xij d.

Payd in expences that same tyme the tymbyr cam from Sametony iij d.

Payd for a lode of tymbyr xv d.

Payd for woode fellyng iij s. iiij d.

Payd Richard Belys for burdyng the wrygts xij d.

Payd John brown baly for x peces of tymber xiij s. iiij d.

Payd Edmund Aleyn wrygth in party of payment of hys bargeny the mondaye after Trynyte sondaye iij s. iiij d.

Payd to Edmunde Aleyn wrygth a dayes werke whan he wente to chose the tymbyr and for other men for ther expences xvj d.

Payd to John Symonds of Stoberd for iij dayes werke hewyng and swaryng of tymbyr iij d.

Payd to Men of Bradenham for a dayes werke helpyn to lode the cartes and owther besydes iij d.

Payd in Expenses and in mete and drynke to the carters when they caryed tymbyr from Sametony Wytness Wylham Langham and Gilberd Fecket ix d.

Payd Edmund Aleyn the Sondaye next after mydsomer in party of payment of his bargeny x s.

Payd for viij loode caryyng from Same-parke gate xiiij s. ij d.

Payd that same time in expences iij d.

Payd to Edmund Aleyn upon marymawdelyn evyn in party of payment of hys bargeny xx s.

Payd in mete and drynke for caryyng of the grette tymber to the stepull dore vj d.

Payd to Edmund Aleyn the weke that saynt Bartylmew whas yn in party of payment of his bargeny iij s. iiij d.

Payd to Edmund Aleyn upon saynt Edward's daye last in party of payment of his bargeny xx s.

Payd to Edmund Aleyn the wrygth be the hands of Awbry Gryggs in party of payment of his bargeny vj s. viij d.

Payd to Mr Griggs be the hands of John Newell that he schuld paye to Mr Bullen for ix okes xviij s.

Payd to Edmund Aleyn belwrygth in party of payment of hys bargeny iij s. iiij d.

Payd to Robert Taylor for to go seke the bellewrygth xij d.

Payd to Edmund Aleyn upon Saynt Barnebees evyn the Apostoll in party of payment of his bargeny xxxiijs. iiij d.

Payd to Edmund Aleyn upon Saynt Jamys day in party of payment of hys bargeny xl s.

Payd for iiij^{xx} li. schetyn for the brassers xiij s. iiij d.

Payd for v^{li} of new brasyng xx d.

Payd to Pratt of derham for xiiij^ston of yerne werke for Gogynnys in full payment xxxiiij s. iiij d.

Payd to Harry Man for mendyng of yren that went to the bellys x d.

Payd to Edmund Aleyn bellwrygth the sondaye nexst after bartylmewdaye in full payment of his bargeny of xj li. xl s.

The accounts show that the bell-hanger employed was one Edmund Aleyn of Elsing, Norfolk, whose activities are also noted in other places[1]. It appears that the contract for the work was signed during the first week of March, 1515 (the week after the feast of St Winwallow), and during the following four months, through to about Midsummer (24 June), timber was chosen and felled in various places, including Bradenham, Shipdham and Saham Toney. Edmund Aleyn's expert knowledge was employed in the choosing of suitable timber for the frame. The construction of the frame appears to have been in progress until July of the following year (St. James' Day), the first mention of brass, for the bearings in which the bells were to swing, appearing immediately after that date. The considerable sum of 34 s. 4 d. for the gudgeons (or axles) shows that the headstocks were then in preparation. It would seem that the bells had been removed from the temporary bell-house[2] and had been hung in the tower by the time the contract was completed in August 1516.

Further entries in the accounts show that Aleyn was employed on a regular contract to maintain the bells for a sum of 3 s. 4 d. per year, with his board and lodgings. The churchwardens also paid for the transport of the bell-hanger's tackle between Swaffham and other churches where he was working.

The details of a later contract[3] for the maintenance of the bells at Swaffham, dated 1593, are of interest.

'xijth day of november
Anno domini 1593

It is covenanted and agreed between the township of Swaffham and Robert Bisshopp that the said Robert Bisshopp (for and in consideration of foure nobles of good and lawfull money of england

1. Edmund Aleyn's name has been noted elsewhere as follows:
(1) A. O. Stallard, *The transcript of the churchwardens' accounts of the parish of Tilney All Saints, Norfolk, 1443 - 1489*, London, 1922, p. 49 (1491): 'Item solutis carpenter de Elsyng ad emendationem campanarum xiiij s.' p. 58 (1500): 'Item solutis homini de Elsyng pro feodo suo et pro factiome unius rotule et pro expensis diversorum hominum adjuvantium sibi ij s. ix d.' The 'carpenter' and the 'man from Elsing' seem to be identified on p. 61 (1503): 'Item Edmundo Aleyn de Elsyng pro feodo suo pro supervidendo campanas xij d.'
(2) A. G. Legge, *The ancient churchwardens' accounts of North Elmham ...*, Norwich, 1891, pp. 18, 19.
2. NRO., PD 52/71, fo. 64.
3. NRO., PD 52/70.

yerely and every yere to be paide unto him the said Robert Bisshopp by the handes of the churchwardens of Swaffham afor saide untill the full ende and terme of five yeres next and immediately ensewing after the date above written) shall kep and maintaine the bells of this towne in good and sufficient caste to be runge and all things to them necessary yerely during the said terme of five yeres and at the end of the said five yeres shall leave the bells and ropes and all other thinges to the same belonging in as good caste and reparation as they are at the day of the date hereof provided if that anye of the bells shall chance to rive and to break that then the same is to be repaired at the costes of the said township of Swaffham aforsaid.

provided likewise that the said four nobles shalbe quarterly paid to him the said Robert the quarter to begin at the Feast of all Soles last past for Consideration whereof the said Robert hath received foure nobles in hand and as a full discharge for the first whole yere next ensueng after the date above written and over and besides he hath received uppon good wille by the consent of the town iij s. iiij d.'

It appears that the bellwright was responsible for the labour and materials for the running repairs to the bell installation, while the churchwardens were to carry the cost of any major work, such as recasting.

The above specific examples may well give an indication of a more general pattern, and it would appear that, although minor repairs and routine maintenance were often entrusted to local people, the expertise required in the construction of a bell-frame and the hanging of new bells was not readily available in every locality. The only two professional bell-hangers whose names have been identified by the writer in pre-Reformation documents are Edmund Aleyn of Elsing (whose work is noted above at Swaffham, and who also worked as far away as Tilney All Saints) and Thomas Morker of Beccles (who hung the bells in the new tower at Walberswick in 1466-1468)[1]. The great similarity in the design and details of many of the pre-Reformation bell-frames identified suggests a consistency of thought on the principles of bell-hanging which implies the involvement of professional workmen, rather than local craftsmen with individual ideas.

PRE-REFORMATION BELL-FRAMES IN SOUTH-EAST NORFOLK

The following list records all pre-Reformation bell-frames, or parts of them, which have been identified during the survey of churches in south-east Norfolk. Where a heading is underlined, the dating of the frame has been relatively securely placed by documentary evidence for the tower structure: other entries are dated by inference but without primary documentary evidence. Reference should be made to the detailed notes on each church for the evidence leading to the suggested dates.

1. R. W. M. Lewis, *Walberswick churchwardens' accounts, A. D. 1450 - 99*, 1947, p. 21: (1466) 'Item to Thomas Morker of Beccles for stokkyng of the grete belle ij s.' The will of Thomas Morker, Bellhanger of Beccles, is dated 1495, NCC wills Wolman 213.

ARMINGHALL. A single pit remains from a three-bell frame which appears to be contemporary with a tower of c. 1473.

Sections of the foundation timbers survive with two complete trusses. The frame is in fair condition. A rough sketch of the design of the trusses was made in April 1981.

ASHWELLTHORPE. The five bells are hung in what appears to be a three-bell frame dating from the last quarter of the 14th century, altered to take a ring of four bells in c. 1504 and further adapted when the ring was increased to five, probably in 1707.

Most of the original foundation structure survives with parts of three contemporary trusses. The frame is in very poor condition. Measured sketches were made in 1978 showing plan, details of trusses, joints and isometric views of the three phases of construction.

BEDINGHAM. The five bells hang in an extended four-bell frame which appears to be contemporary with the upper stage of a tower of about 1515.

The original frame survives almost complete to the level of the frame-heads. The frame is in poor condition. Measured sketches were made in 1979 showing the plan of the foundation beams and frame-heads, and sections through the frame.

BIXLEY. Three parallel beams, doing duty as an apparently temporary bell-frame, survive in the upper part of a tower wich was under construction in c. 1526-1538.

The beams are in fair condition.

BRESSINGHAM. The bell-frame appears to be contemporary with the upper stage of a tower completed in c. 1450: it was originally designed for a ring of four bells and was extended to take an extra bell probably in c. 1480.

The complete pre-Reformation structure survives, although repaired at various dates, and sections of the frame-heads have been replaced. The frame is in fair condition. Measured sketches were made in 1982 showing the plan of the frame-heads and foundation members, the design of the trusses and a section through the frame.

CARLETON ST. PETER. Four bells hang in a frame which was extended from a three-bell frame, probably in c. 1675: the original frame appears to be contemporary with the upper stage of a tower dating from c. 1525 - 1537.

The original foundation structure survives, but no complete contemporary truss remains. The 17th-century modifications are of considerable interest. The frame is in poor condition. Rough sketches were made in 1978 showing the plan of the frame and the design of the trusses with the subsequent alterations.

CLAXTON. The bell-frame appears to be of c. 1505.

The original foundations survive with a single contemporary truss: the three other trusses were rebuilt using older timber. The frame is in poor condition. Rough sketches were made in 1978 showing the design of the trusses and subsequent alterations.

ELLINGHAM. Documentary evidence suggests a date of c. 1516 for the timber frame which was removed in 1977.

A four-bell frame, adapted for a ring of five, remained until 1977. A rough sketch made at the time of removal shows the plan of the top members of the frame and the design of the trusses.

FERSFIELD. The three-bell frame is contemporary with the upper stage of a tower which is probably late 15th-century.

The original foundations survive, with three of the contemporary trusses, one truss having been rebuilt. The frame is in fair condition. Very rough sketches were made in 1978 showing the design of the trusses and the end bracing of the frame. The ascent to the bell-chamber is hazardous, making accurate recording difficult.

FORNCETT ST. MARY. The three-bell frame appears to be contemporary with a tower of c. 1432. It shows evidence of the addition of long-frame heads to the original design.

The original foundation structure remains with the four contemporary trusses: the frame-heads are very much later additions. The frame remains in fair condition following the removal of the bells in 1981. Measured sketches were made in October 1982 showing the plan, design of the trusses, and the bracing of the frame-ends: a perspective sketch suggesting the original form of the frame, with short frame-heads, was made.

FRITTON. The three-bell frame appears to date from c. 1560.

Much of the original foundation structure survives, following two comparatively recent restorations. Two contemporary trusses remain and two have been rebuilt in similar form. The frame is in relatively good condition, enabling the three bells to be rung 'up'. Measured sketches were made in 1980 showing the plan; design of the trusses and the bracing of the frame ends.

FUNDENHALL. The three-bell frame, adapted for a ring of five, appears to be contemporary with the upper stage of a tower of c. 1418. The ring was increased to five in 1754 and the extension of the frame appears to be of that date.

Although superficially much altered when the ring of five bells was installed in 1754, most of the original bell-frame survives, including four trusses and long frame-heads. The frame is in fair condition and is undergoing repair to enable the bells to be rung 'up'. Measured sketches were made in June 1978 showing the plan of the three-bell frame, the five-bell frame, and the design of the trusses.

SEETHING. Three pits remain from a four-bell frame which is contemporary with the upper stage of a tower to which no date has been assigned. The design of the frame suggests that it is roughly contemporary with that at Woodton.

Most of the original foundation structure survives with the trusses surrounding three bell-pits: later adaptation of the frame for lighter bells has left the original frame-heads parallel to newer timber. The frame is in good condition, but difficulty of access prevented the making of a reliable sketch.

SHIMPLING. The four-bell frame appears to date from c. 1466.

The frame survives almost complete, apart from the frame-heads, which have been renewed. The frame is in poor condition. Measured sketches were made in 1978 showing the plan of the frame-heads and foundations and a perspective sketch of the frame.

SHOTESHAM ST. MARY. The three-bell frame appears to be contemporary with a tower of c. 1533. The foundations were designed for subsequent extension to a five-bell frame which was never completed.

The original foundation structure survives with four complete trusses. Apart from one bad corner, the frame is in fair condition. Measured sketches were made in 1978 showing the plan of the frame-heads and foundations, the design of the trusses, and a perspective sketch.

TIBENHAM. The six bells are hung in what appears to be a four-bell frame of c. 1437, adapted to take a ring of five in, probably, c. 1519, and further extended to take a ring of six bells in 1787.

Most of the original frame survives with long frame-heads dating from before the 18th century augmentation to six bells. Four original trusses survive completely, the southernmost truss having been much repaired. The frame has long frame-heads, but one short frame-head was identified doing service as a packing between the frame and the bell-chamber floor: there are remains of the transoms which used to separate the trusses of the short-headed frame. The frame is in fair condition, allowing the bells to be rung 'up'. Measured sketches were made in 1978 showing the plan of the frame and the design of the trusses: the development from a four-bell frame has been suggested by plans and isometric sketches.

TROWSE. The much-altered remains of a three-bell frame appear to be contemporary with a tower which is probably early 15th-century.

The original foundations survive with two of the original trusses. The frame is in poor condition and no sketch was made.

WACTON. The four-bell frame appears to be contemporary with the upper part of a tower which apparently dates from the first quarter of the 14th century.

The original foundations survive, and much of the timber of the trusses surrounding the bell-pits: considerable later repairs obscure the basic design. The frame is in poor condition. Measured sketches were made in 1977 showing the plan of the frame-heads and the foundation structures, a section through the frame, and the design of the trusses.

WHEATACRE. The four-bell frame appears to be contemporary with a tower of c. 1522.

The remains of the foundation structure are scanty and have been much patched, most of the trusses have collapsed, but the frame-heads remain. Much alteration to the frame has taken place. The frame is in very poor condition with vertical members hanging from the frame-heads rather than supporting them. Rough sketches were made in 1979 showing the plan, design of trusses, and joints.

WOODTON. The four-bell frame, which until 1982 housed the four heavier bells of a ring of six, appears to be contemporary with the upper stage of a tower built during the early 15th century.

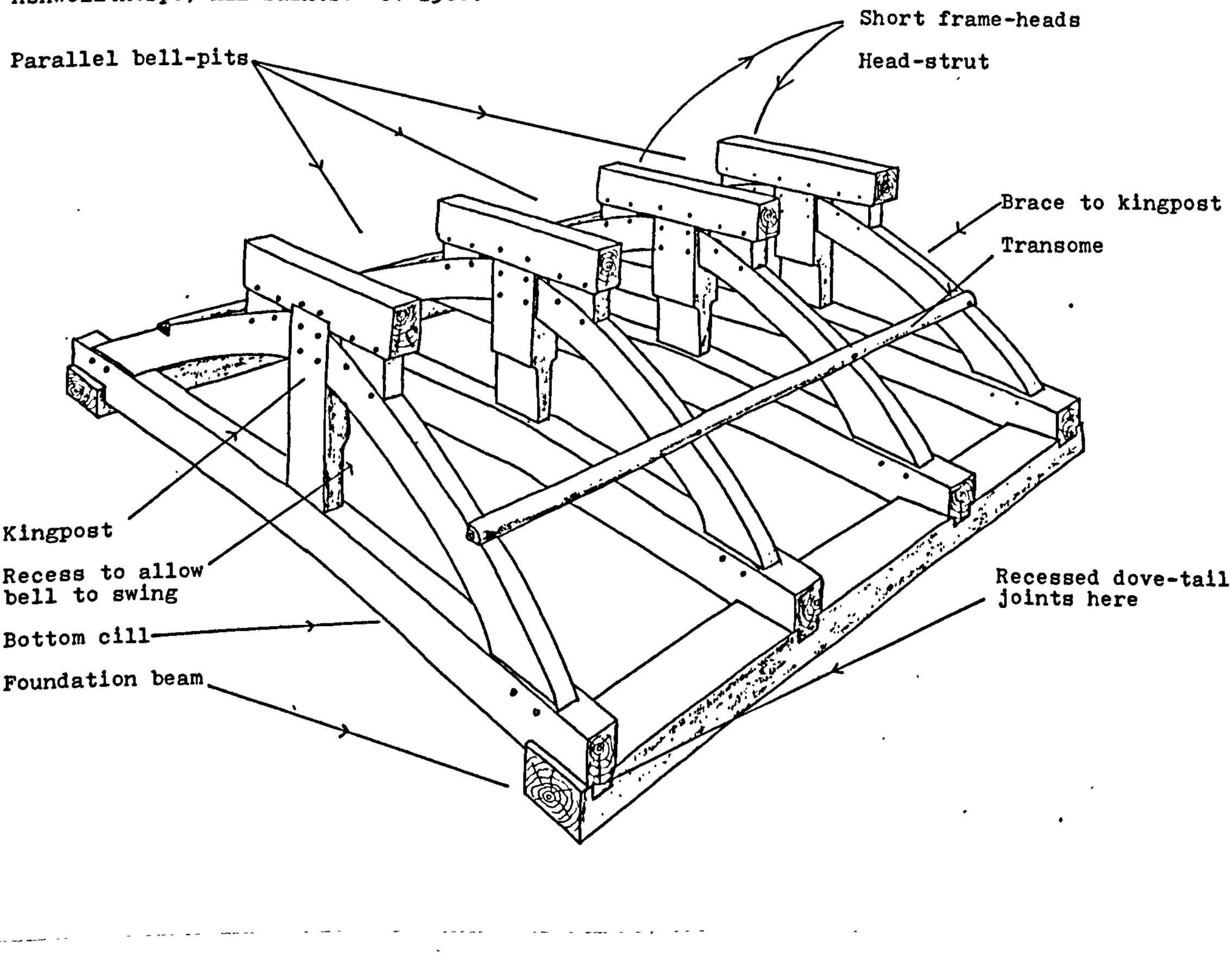
The original foundations survive, but most of the trusses have been patched, and altered from their original form. At least one complete frame-side has been replaced. The frame is in poor condition and is difficult to get up to: no sketches have been made.

DIAGRAM

SHOWING THE PARTS OF A SHORT-HEADED BELL-FRAME DESIGNED FOR THREE BELLS TO SWING IN PARALLEL PITS.

BELL-FRAME DESIGNED FOR BELLS TO SWING IN THREE PARALLEL PITS.

Ashwellthorpe, All Saints. c. 1380.

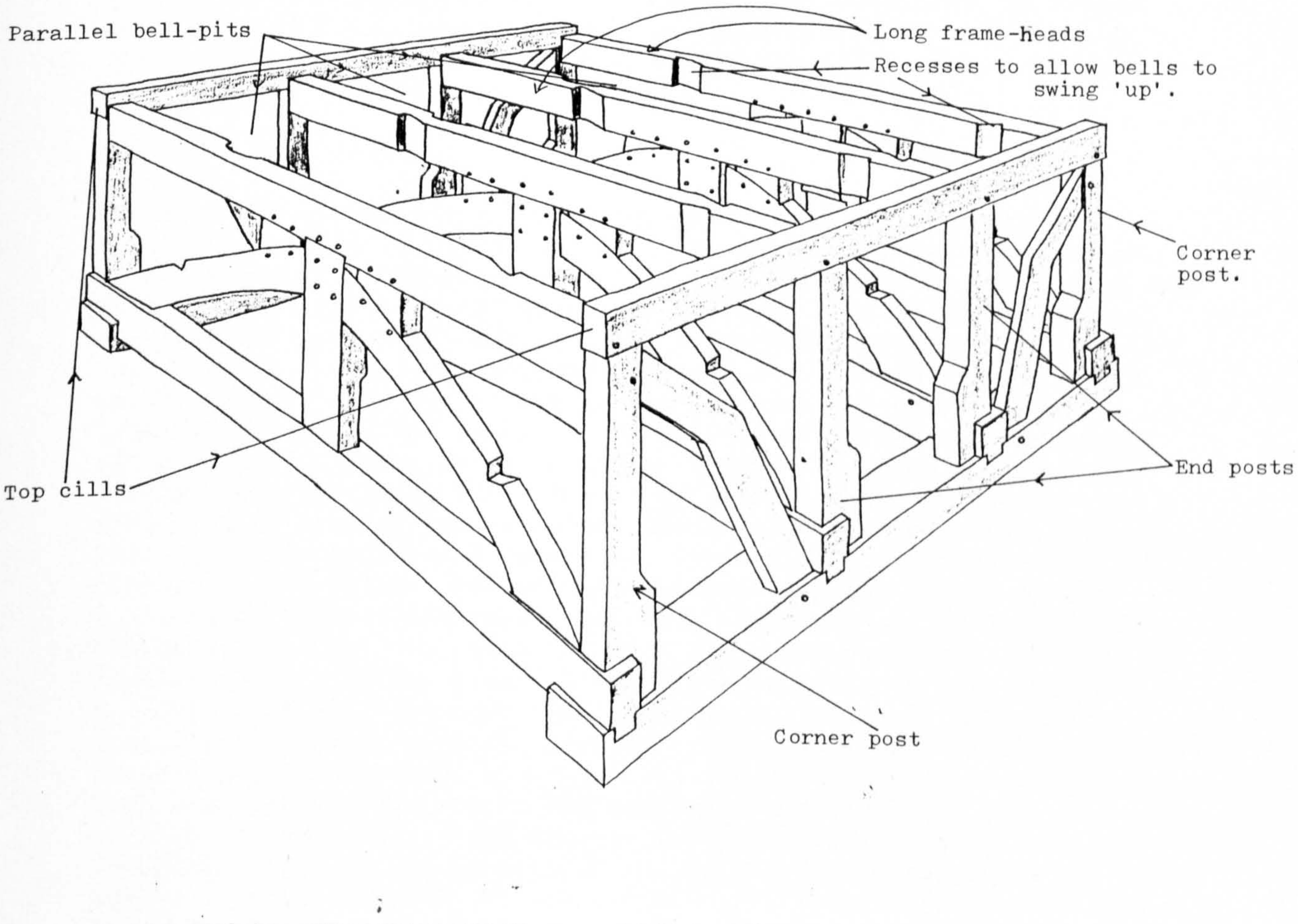


DIAGRAM

SHOWING THE PARTS OF A LONG-HEADED BELL-FRAME DESIGNED FOR THREE BELLS TO SWING IN PARALLEL PITS.

BELL-FRAME DESIGNED FOR BELLS TO SWING IN THREE PARALLEL PITS.

Ashwellthorpe, All Saints. c. 1505.



ANALYSIS OF BELL-FRAMES

GENERAL REMARKS.

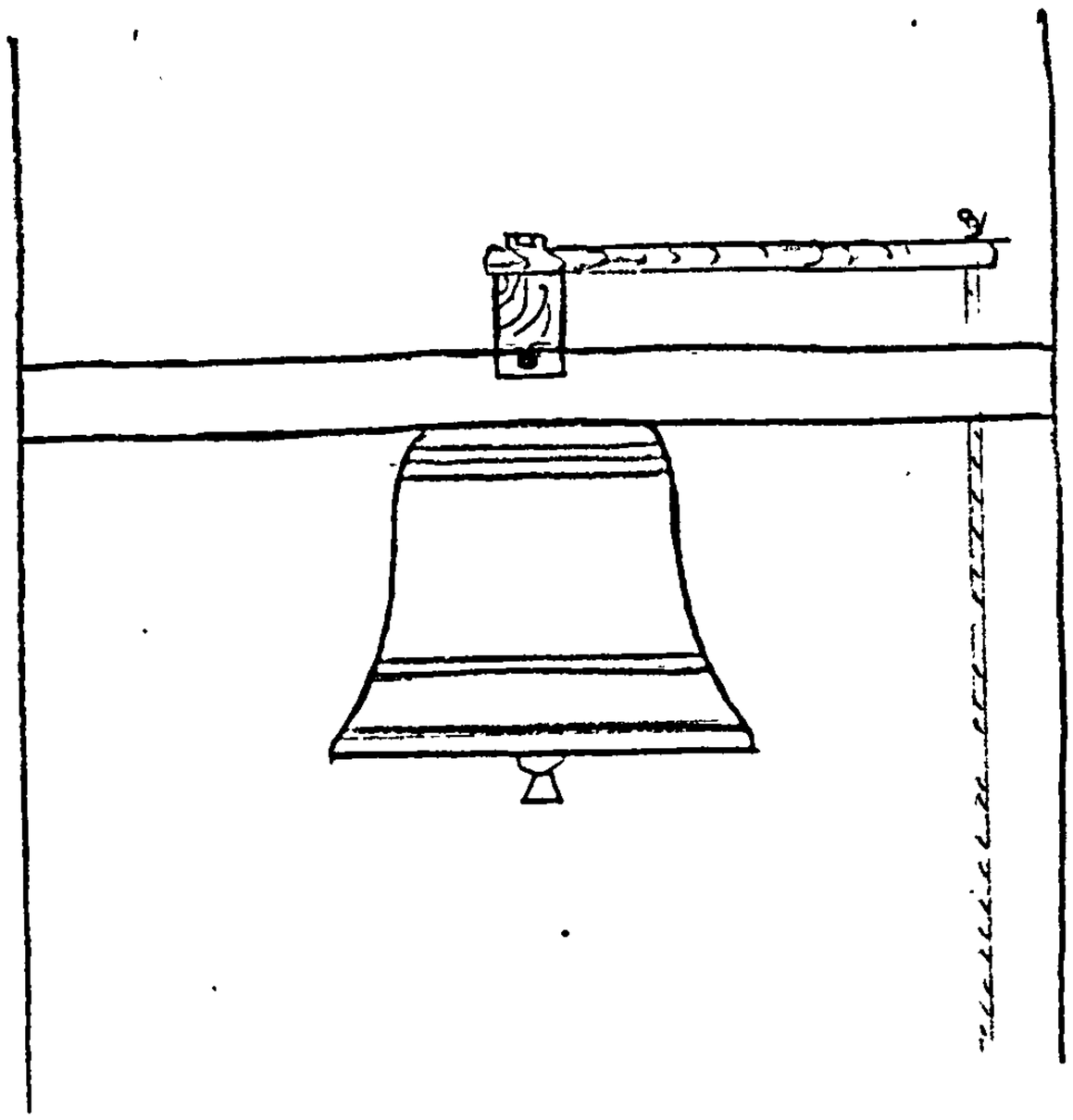
The following analysis, which attempts to trace the development of the design and plan of bell-frames, is based on those frames examined in churches in south-east Norfolk. For the purpose of comparison and illustration, reference has also been made to a number of contemporary frames outside the immediate area of the detailed survey. To enable the development of the design of bell-frames to be studied, they have been divided into two main types: those frames where the bell-pits are parallel, and those where bells swing in more than one direction. In frames where some pits are at right-angles to others the design of the trusses will necessarily be modified by the need to fit the number of bell-pits into the plan of the tower, and compromises may be made whereby an ideal distribution of forces is not obtained. In frames with parallel pits, however, the only factor influencing the design of the trusses which support the bearings of the bells is a consideration of the forces exerted during ringing.

PRIMITIVE BELL-FRAMES.

The simplest design for a bell-frame appears at Bixley where the single bell hangs in one of two pits formed by parallel beams which span the tower[1]. The beams are built into the walls at their east and west ends and there is no additional bracing. For small bells which are hung for chiming through a small arc, rather than for ringing in full circles, such an arrangement is adequate, but for larger bells which are rung 'up' the effect of such a framework would be very injurious to the tower fabric. The horizontal forces during ringing would be sufficiently large to cause considerable pressure at the points where the beams enter the tower walls, with a battering-ram effect, thus causing damage to the masonry. A further disadvantage is that the maximum downward forces are exerted at the unsupported centres of the beams. Documentary evidence and the design of the fabric suggest that the tower was never finished, and it appears that the existing frame was installed as a temporary expedient awaiting the completion of a taller tower with a properly designed bell-chamber[2]. A similar but slightly more sophisticated design for a bell-frame occurs in the tower at East Carleton[3] where the single bell is mounted between a pair of beams, as at Bixley, but with additional struts from the tower walls to joints in the horizontal beams. Such an arrangement would alleviate some of the problems caused by the vertical forces at the centres of the beams which support the bell, but would not materially affect the damaging effects of the horizontal forces at the ends of the horizontal beams. As at Bixley, it appears that the bell-frame was installed as a temporary expedient in an incomplete tower[4].

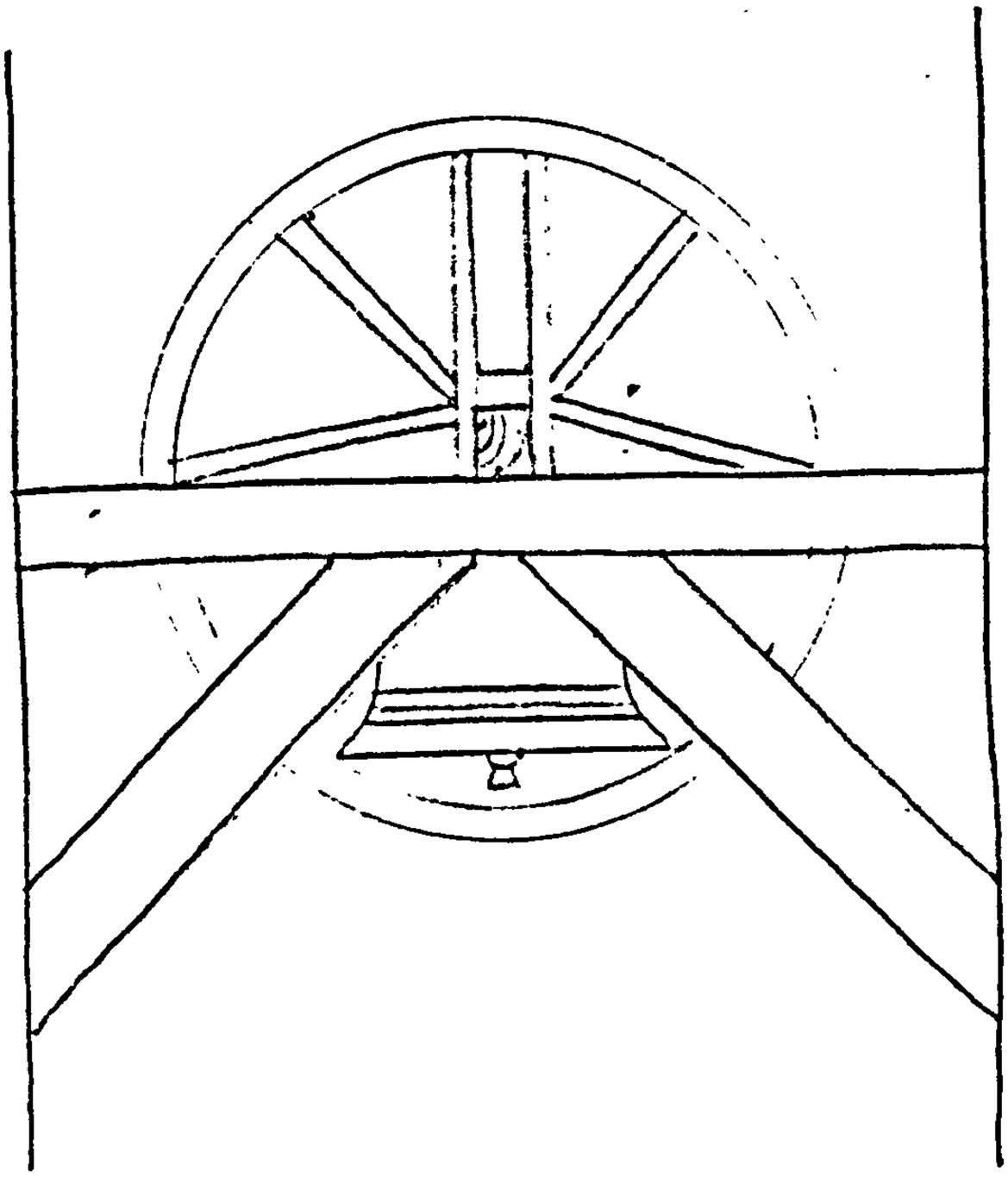
1. See diagram p. 372.
2. See p. 212.
3. Not in the area surveyed. See diagram p. 372
4. See above.

BIXLEY



Primitive bell-frame.

EAST CARLETON



Primitive bell-frame.

MORE ADVANCED DESIGNS.

In order to divert the lines of action of the vertical forces at the axles of a bell away from the centre of the supporting beam; a truss, consisting of an upper member on which the bearings of the bell are mounted, and a lower member, which communicates the forces to the tower walls, is employed in the majority of bell-frames. The braces between the upper and lower members of the truss are designed to spread the effect of the vertical forces at the axles of the bell, while the lower beams are mounted on a substantial wall-plate which spreads the horizontal forces[1]. An analysis of the details of pre-Reformation bell-frames identified in south-east Norfolk shows that two basically different designs of truss were used, with numerous variations in minor detail. The two designs are radically different from the almost standard design of truss adopted from about 1600 onwards[2]. Both of the older designs attempt to prevent the sagging of the beam which supports the axles of the bell under the large vertical force generated during ringing, and to counteract the 'battering-ram' effect of the large horizontal forces, with rapidly alternating directions.

THE BRACED KING-POST TRUSS.

The most common arrangement noted in the survey was a truss consisting of a vertical king-post supported by a pair of inclined braces (which may be straight, curved or angled) mounted on a cambered tie-beam. The truss usually supports either a long or a short frame-head on which the bearings of the bell are mounted[3]. The downward forces are communicated to the foundation beams at three points by the king-post and braces, and the effect is greatly to reduce the sagging of the truss during ringing. The horizontal forces tend to cause the king-post to rock from side to side during ringing and the use of curved or angled braces, rather than straight braces, increases the effectiveness of the horizontal support. The main advantage of this design is its strength and simplicity, since it requires only five mortise and tenon joints. The chief disadvantage is that, because of the rigidity of the triangular shapes, the effect of the horizontal forces at the axles of the bell is to put the joints at the feet of the braces alternately in tension and compression: the inevitable wear at these points will eventually allow a slight rocking of the king-post under ringing stresses, affecting the stability of the frame and increasing the physical effort needed to ring the bell.

The gudgeon-pins, or axles, on which the bell swings, are usually mounted in brass bearings set into mortises in the timber of the bell-frame. Evidence has been found where brasses are sunk into the end-grain of a king-post[4], but this practice is unsatisfactory because the large horizontal forces during ringing are likely to split

1. See sketch of the Forncett St. Mary frame, p. 105.
2. See sketches of frames at Aslacton (p. 92) and Denton (p. 196).
3. King-post trusses are illustrated in the diagrams of frames at Ashwellthorpe (p. 84), Arminghall (p. 211), Carleton St. Peter (p. 254), Claxton (p. 289), Forncett St. Mary (p. 102), Fritton (p. 111), Fundenhall (p. 116), Shotesham St. Mary (p. 231) and Wheatacre (p. 77). 4. CBSx., p. 227.

the timber. The usual practice is to mount a horizontal frame-head at the top of the king-post, using a mortise and tenon joint, and to recess the bearings into the upper surface. A number of frames were clearly desiged with short frame-heads[1], but later additions to old frames, and frames constructed at later dates, employ frame-heads which extend for the full length of the bell-pit[2]. Since the brasses are mounted in the upper surfaces of substantial frame-heads, there is a tendency for the frame-heads to rock as the bells are rung: this is usually counteracted by the introduction of short vertical struts, called head-struts, between the frame-heads and the inclined braces, on either side of the king-post.

In frames with short frame-heads the braces between the king-posts and the foundations of the frame are usually slighter than the other members of the truss, thus allowing relatively large bells to swing between the trusses but enabling the frame-heads to be substantial enough for the brass bearings to be properly set into the timber: in such cases the king-posts are recessed to allow the lip of a bell to swing past. In some cases the braces are also of stout section and these again may be grooved to allow the bell clearance[3].

THE SCISSORS BRACED TRUSS.

Although less common than the braced king-post truss, the scissors-braced truss is a very much more satisfactory design[4]. In this type of truss the frame-heads are supported by pairs of inclined braces, which may be curved, angled or straight. The main braces are then additionally supported beneath by means of a pair of smaller braces, crossed like scissors. The absence of a king-post removes the vertical components of force from the centre of the truss to points near the outer ends, and the supporting braces add rigidity to the structure, as well as tending to prevent the horizontal forces from causing the frame-head to drift backwards and forwards during ringing. There is also much less tendency for the truss to rock during ringing since there is no vertical post to act as a fulcrum: the joints are, therefore, subjected to much less strain. The fact that the frame-heads are supported by a pair of braces, rather than by a king-post, greatly reduces the tendency of the frame-head to rock during ringing, and head-struts are exceptional[5]. A disadvantage of this type of truss is that it requires more timber than a king-post truss: there are also more joints (eight mortise and tenon and a halved joint at the centre of the scisors).

OTHER TYPES OF TRUSS.

Long frame-heads supported by a pair of inclined braces have been noted in a few apparently pre-Reformation frames, and others have been noted where the truss is a simple 'X' brace[6].

1. See diagram of Forncett St. Mary frame, p. 102.
2. See diagram of Shotesham St. Mary frame, p. 231.
3. See section of Bressingham frame, p. 166
4. See diagram of Tibanham frame, p. 146
5. Mortises for head-struts were noticed in a scissors-braced frame at Blo Norton, visited April 1979.
6. Examples of both types of truss were noted at Riddlesworth, visited August, 1979.

THE FRAME-HEADS.

A short frame-head, although an adequate support for a light bell, is very likely to rock under the stresses of full-circle ringing. The introduction of head-struts to prevent this has been noted[1], but a more common method of stabilising the frame truss is to replace short frame-heads by long timbers which run the entire length of the bell-pit to be supported by vertical posts at their extremities: in a number of bell-frames examined, it can be seen that an early design which employed short frame-heads was later modified by the addition of long frame-heads and corner-posts[2]. There are also many frames where it is clear that the long frame-heads are an integral part of the original design[3]. In such frames, the king-posts and braces are usually recessed to allow the lip of the bell to swing past, and the frame-heads are thinned to give the same clearance[4]. In a number of cases long frame-heads are given additional support by head-struts, a device which cannot have been very effective[5]. A better method of strengthening the truss is the addition of a second brace connecting the frame-head with the corner-post of the bell-pit[6].

TRANSOMS.

In a bell-frame it is necessary to introduce some method of preserving the separation of the trusses between which the bells swing. Although a correctly-hung bell produces no sideways force as it swings, a bell hung from badly aligned gudgeons will produce lateral forces. A second consideration is that if a bell should fall during ringing, the unsupported trusses would be likely to collapse. The only method of keeping apart the trusses of a frame with short frame-heads is by introducing a horizontal transom, connecting the trusses below the level at which the bell clappers swing; such transoms are usually fixed into notches in the braces of the frame trusses and secured by iron spikes. There are also instances of very substantial trusses which are further supported by braces from the foundations[7].

Where a frame has long frame-heads the trusses can be kept apart by placing a horizontal cill at the top end of the bell-pits, thus making a transom unnecessary. Where a frame has a transom in addition to a top cill, or where notches for a transom have been noted, it is taken as an indication that the frame was originally constructed with short frame-heads and has been altered at a later date: conversely a frame where there is no evidence for a transom at low level is assumed to have had long frame-heads as part of its original design.

1. See diagram of Forncett St. Mary frame, p. 103.
2. See perspective sketches of the frames at Ashwellthorpe (pp. 87,88) and Forncett St. Mary (pp. 102,103), for example.
3. See diagrams of the frames at Fritton (p. 111) and Shotesham St. Mary (p. 231), for example.
4. See sketch of the Arminghall frame (p. 211), for example.
5. *Ibid.*
6. See diagrams of the trusses of the frames at Carleton St. Peter (p. 254), Claxton (p. 259), Fritton (p. 111) and Shotesham St. Mary (231), for example.
7. See perspective sketch of the Forncett St. Mary frame (p. 105) and the diagram of the Tibenham frame (p. 145), for example.

THE FOUNDATION STRUCTURE.

To counteract the 'battering-ram' effect produced by the horizontal forces generated during ringing, the lowest horizontal members of the trusses of the frame are jointed to heavy timbers running perpendicular to the direction of the swing of the bells[1]. These timbers spread the forces at the ends of the individual trusses along the length of the bell-chamber walls. The vertical components are usually spread by resting the foundation members on wide off-sets. It is often noticed that the tower buttresses finish at, or just above, the level of the bell-frame foundations, this being the level where the forces are communicated to the fabric of the tower.

The massiveness of most foundation structures produces a great deal of inertia to absorb the constantly varying forces transmitted as the bells are rung, thus minimising the movement of the bell-frame as a whole. The jointing of the foundation beams is observed always to follow the practice of cutting away the minimum thickness of timber in the formation of joints. The ends of the lower members of the frame trusses are usually jointed to the heavy perpendicular members by shallow recessed dove-tail joints and, where members cross, the recesses of the joints rarely exceed one-fifth of the depth of the timber[2]. It is quite common for the foundation structure of a frame in which the bell-pits are at right-angles to each other to be arranged on three distinct levels[3].

It is almost universally noted in older bell-frames that there is a stout floor beneath the bell-frame: it is usually heavily framed, with a central trap to enable bells to be removed for repair. The level of the floor is usually below that of the frame foundations, and its purpose is to give easy access for repairing the bell fittings as well as to prevent the dangerous descent of a bell-clapper, should a baldrick break during ringing. The space below the frame foundation ensures free circulation of air around these important timbers, and allows the easy removal of the inevitable accumulation of rubbish from masonry and birds.

JOINTS:

Since the structure of a bell-frame is relatively simple, and does not involve long lengths of timber, joints are comparatively simple. The usual method of jointing the foundation timbers at their ends is by means of a recessed dovetail joint, and where these members cross there is usually a simple recessed joint[4]. Mortise and tenon joints in their simplest forms are ubiquitous, and shouldered tenons are also found[5]. Paired tenons at right-angles are sometimes found securing

1. See sketches of the frames at Ashwellthorpe (p.81), Forncett St. Mary (p.105), for example.
2. See diagrams of the foundations of the frames at Ashwellthorpe (p.81), Bedingham (p. 244) and Wacton (p. 158), for example.
3. *Ibid.*
4. *Ibid.*
5. See diagrams of the joints at Ashwellthorpe (p. 90).

the frame-heads[1], and a 'dog-leg' assembly, using tenon joints, is often employed at the feet of the corner-posts and end-posts of a frame[2]. The most complicated jointing occurs in the 'hollow-square' frames at the feet and heads of the corner-posts of the central pit[3].

Since there is so little variety in the joints used, and, indeed, little scope for innovation, it has not been possible to use the analysis of joints as a method for dating bell-frames in as successful a manner as it has been used to date other timber-framed structures[4].

THE PLAN OF THE BELL-FRAME.

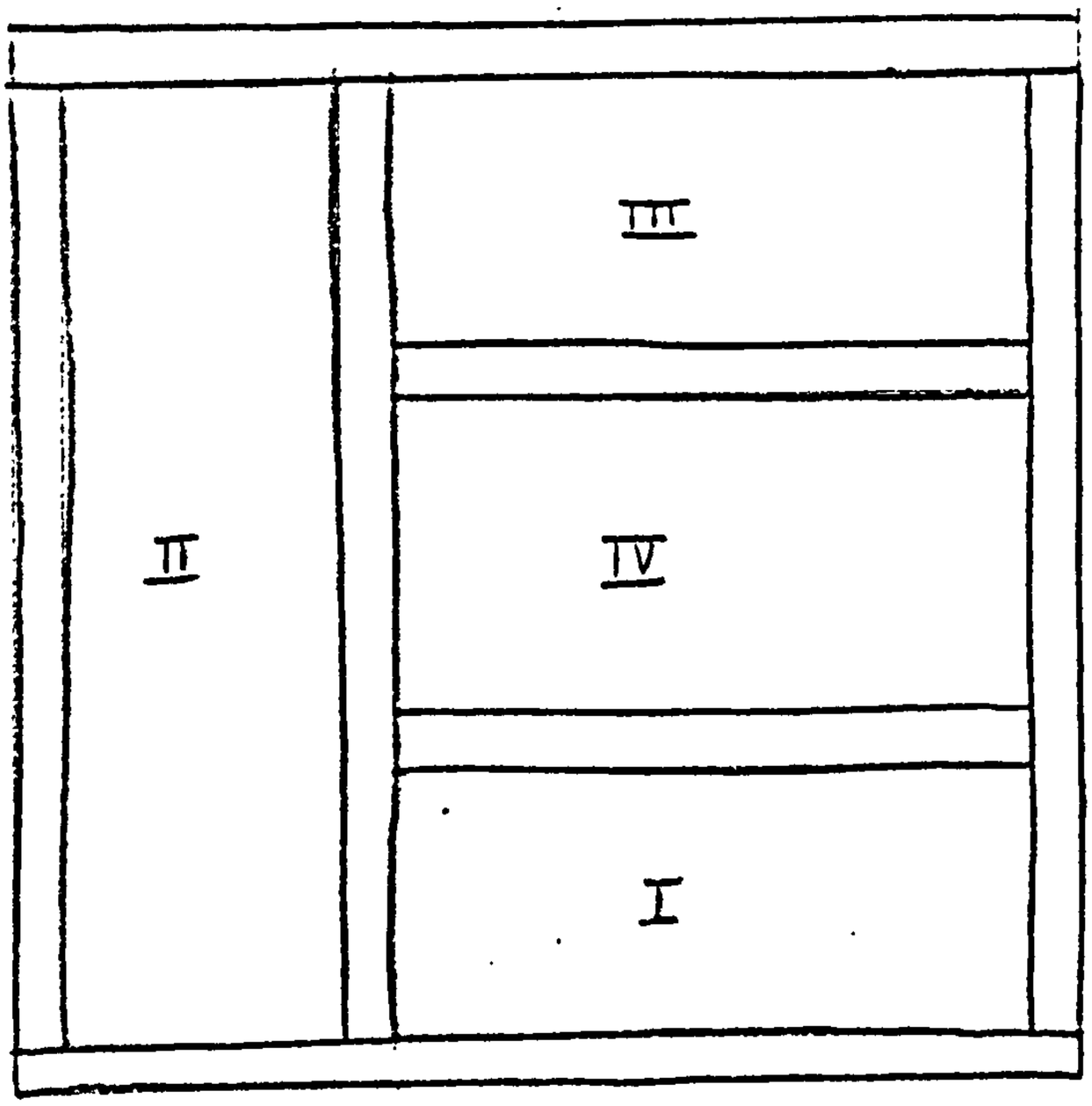
The plan adopted for a bell-frame depends on the size and shape of the bell-chamber, and on the number and weight of the bells to be hung there. Few churches in south-Norfolk had rings of as many as 5 bells in 1552, and the most common number was a ring of three[5]. Most of the churches surveyed have square towers, but there are significant numbers of round and octagonal bell-chambers.

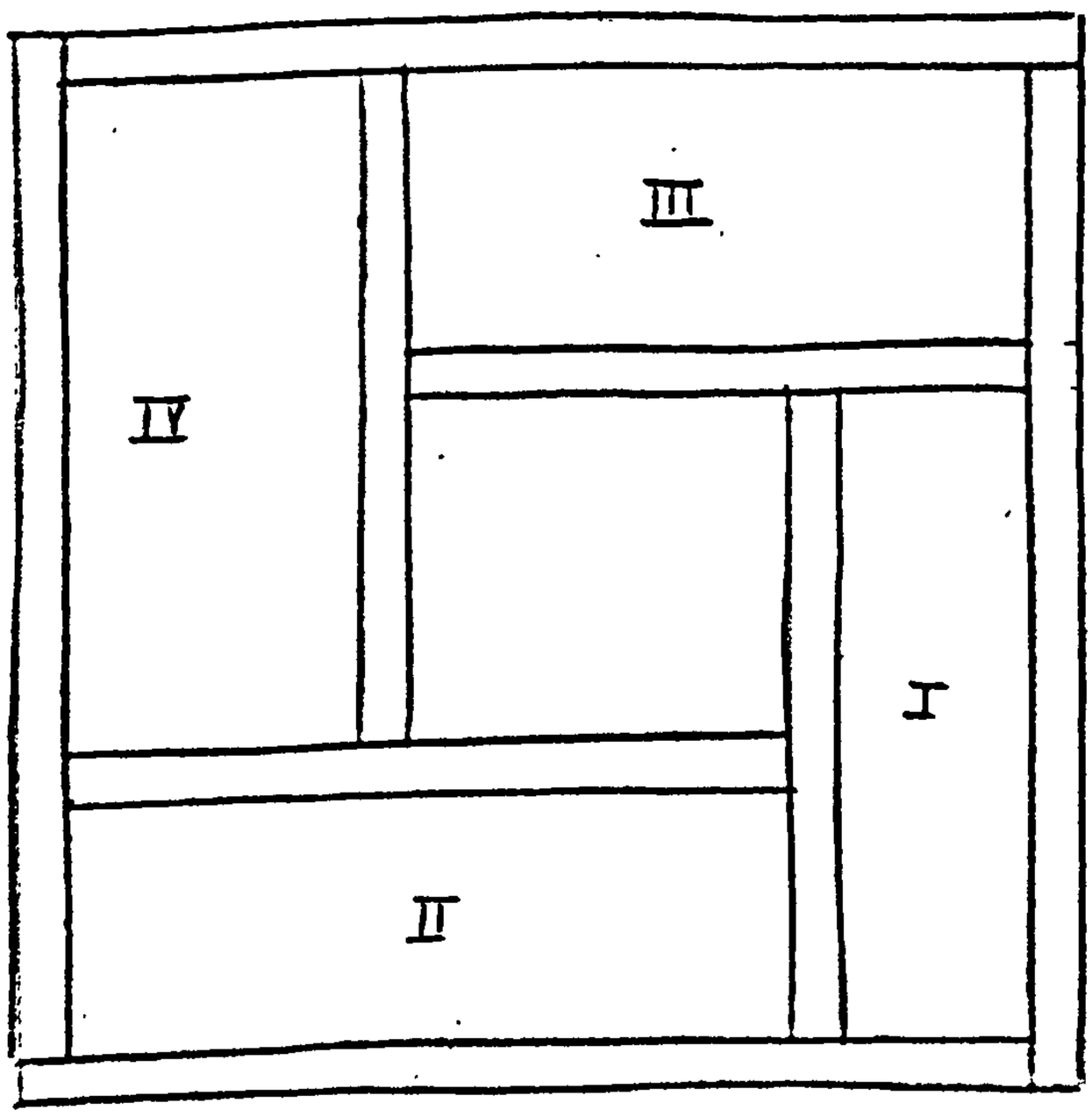
The dimensions of the pit needed to allow a bell to swing through a full circle require that it should be about three times as long as it is wide. For a pre-Reformation bell weighing 10 cwt, which would be rather longer than a modern bell of the same weight, the bell-pit would need to be about 3 ft 4 inches (1000 mm) wide by about 10 ft (3000 mm) long.

In a square tower it is thus possible and convenient to arrange a frame for three bells to swing side by side in parallel bell pits: a common arrangement has the largest bell in the middle pit with the smaller bells on either side. Such a frame is usually arranged so that the bells swing east to west, reflecting the fact that the buttressing effect of the church building against the east face of the tower makes the fabric much stiffer and stronger in that direction. By placing the heaviest bell in the central pit there is less twisting effect on the fabric as the bells are rung. To accomodate a typical ring of three bells, with a tenor of about 10 cwt, would require a bell-frame measuring about 11 ft (3300 mm) square. If a ring of four bells of similar weight were arranged in parallel pits, the frame would need to measure about 11 ft (3300 mm) wide by 14 ft (4250 mm) long, and it is much more usual for a four-bell frame to be designed with one bell swinging at right-angles to the other three. The four-bell frame at Wheatacre is designed in such a way that the heavier bells swing east-west, the stronger way of the tower, with the treble bell swinging at right-angles. The arrangement of this frame shows how the designer reconciled the conflicting constraints of providing a pit long enough to contain the smallest bell without

1. See diagram of the joints at Wheatacre, p. 76.
2. See diagram of the Ashwellthorpe frame, for example.
3. See diagram of the Wacton frame, p.159.
4. See, for example, C. A. Hewitt, *English historic carpentry*, Chichester, 1980.
5. See p. 346, note 1.

PLANS OF FOUR-BELL FRAMES





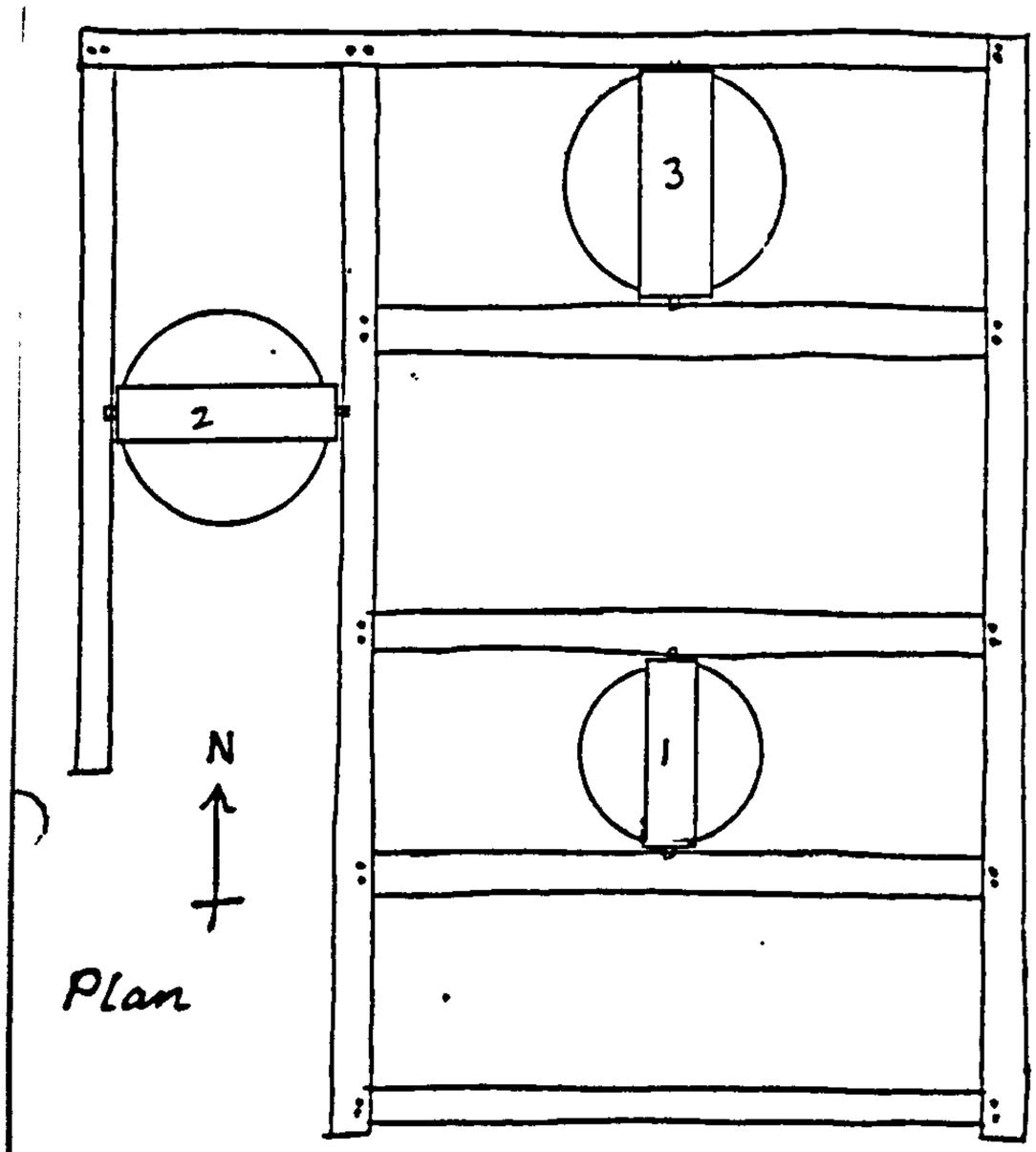
restricting the length available for the pit of the tenor bell. The combined widths of the pits of the second and third bells were clearly insufficient for the length of the smallest bell-pit to be placed across their ends, and thus the largest bell was placed in the centre of the frame, between the pits of the second and third bells. The foundations of the Wheatacre bell-frame consist of four parallel tie-beams running east-west beneath the parallel trusses[1].

A much more common plan for a four-bell frame is to arrange the bell-pits around a vacant central space in such a way that two bells swing in each of two perpendicular directions. Compared with the plan of the frame at Wheatacre, the 'hollow-square' plan offers little reduction in the over-all dimensions required to hang a similar ring of bells, but offers considerable advantages in transmitting the forces generated by ringing in two perpendicular directions[2]. At Bressingham, for example, the two heavier bells swing east-west, the stronger way of the tower, while the lighter pair of bells swing north-south. A further advantage of the plan is that the central space is ideally suited to allow the passage of materials for the repair of the tower and, in some cases, it is large enough for bells to be lowered through. When the Woodton bells were removed from such a frame for rehanging in 1982, however, they would not pass through the central space and the only way of getting them down was to remove the filling of one of the sound-windows and to lower the bells on a jib outside the tower[3].

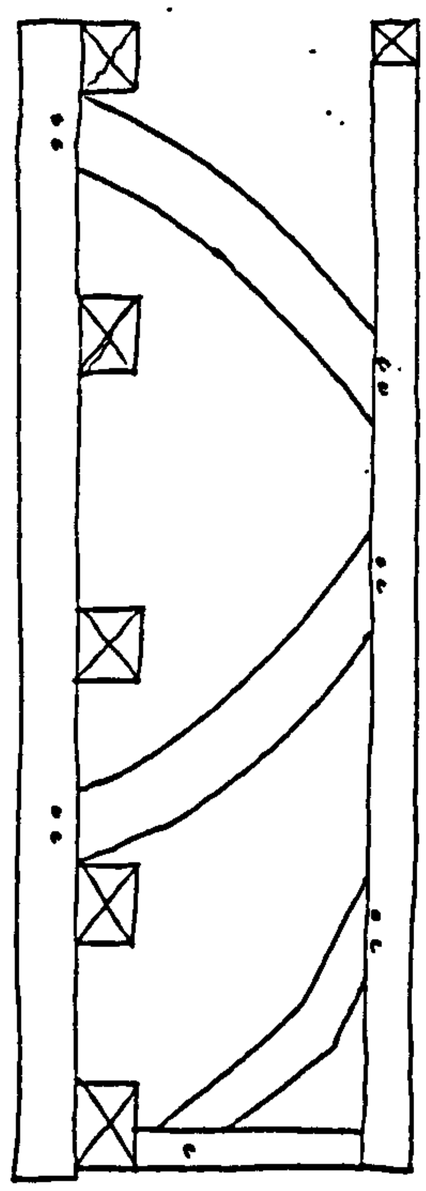
The design of the foundations of 'hollow-square' frames is of interest, and there are a number of variations. The frames at Bedingham, Bressingham, Shimpling and Wacton are all of the same plan but adopt different arrangements for the foundation timbers[4]. The common feature of the frames is, as already noted, that the members which cross at right-angles are jointed with a minimum loss of timber, thus preserving maximum strength. The trusses of 'hollow-square' frames are based on the king-post design and employ either single or double braces[5]. Where there is little space in a tower the outer ends of the bell-pits are often left unclosed by a horizontal member, thus allowing the bells to swing outside the area of the frame into the window reveals[6]. There is little doubt that the 'hollow-square' frame is immensely strong and it continued as a current design through to the end of the 19th century[7].

Of the few towers which contained as many as five bells in 1552, pre-Reformation frames remain only at Tibenham and Bressingham: both are adapted from frames which were initially designed for four bells, and the methods used to increase the available space are of interest[8]. Apparently purpose-built pre-Reformation frames designed for five bells have been noted at Thompson and Oulton (Suffolk) outside the area of the survey[9].

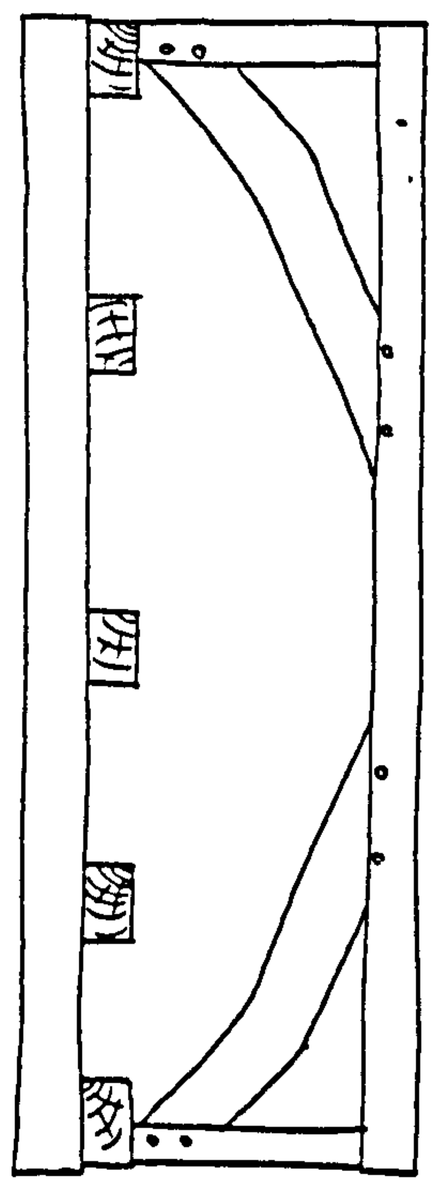
1. See p. 77. 2. See diagrams, p. 378. 3. The writer was present.
4. See diagrams of the frames at Bedingham (p. 244), Bressingham (p. 164), Shimpling (p. 182) and Wacton (p. 158).
5. *Ibid.* 6. See p. 246. 7. See p. 67.
8. See notes on Bressingham (p. 161) and Tibenham (p. 142).
9. See diagram of the frame at Thompson (visited April 1978), pp. 380, 381.



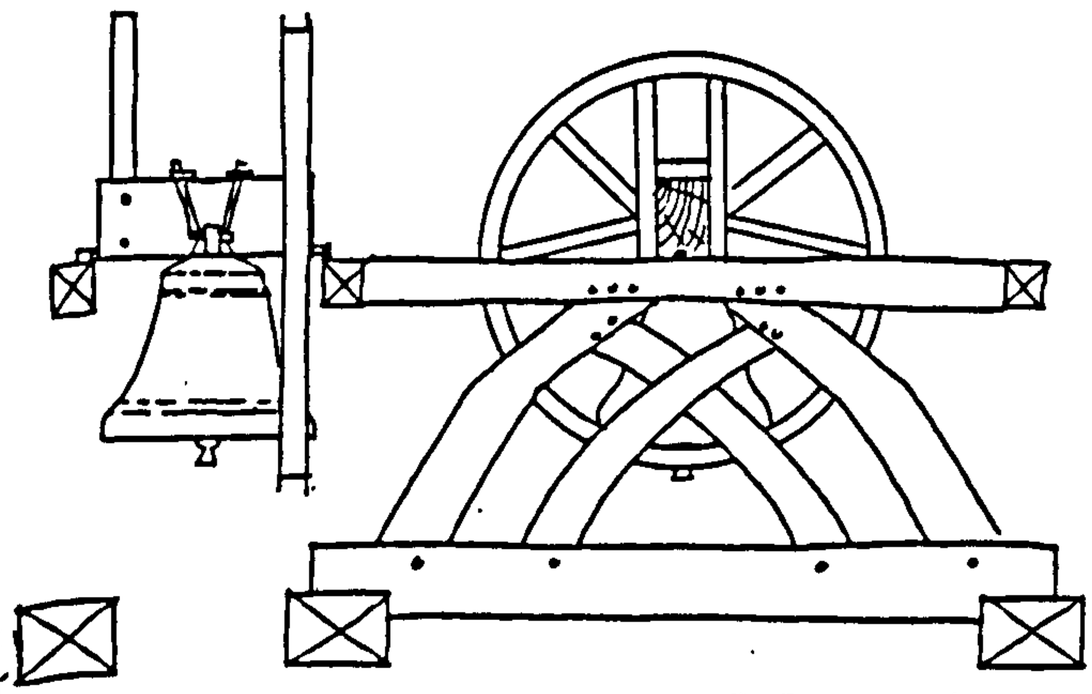
Plan



Central N-S truss

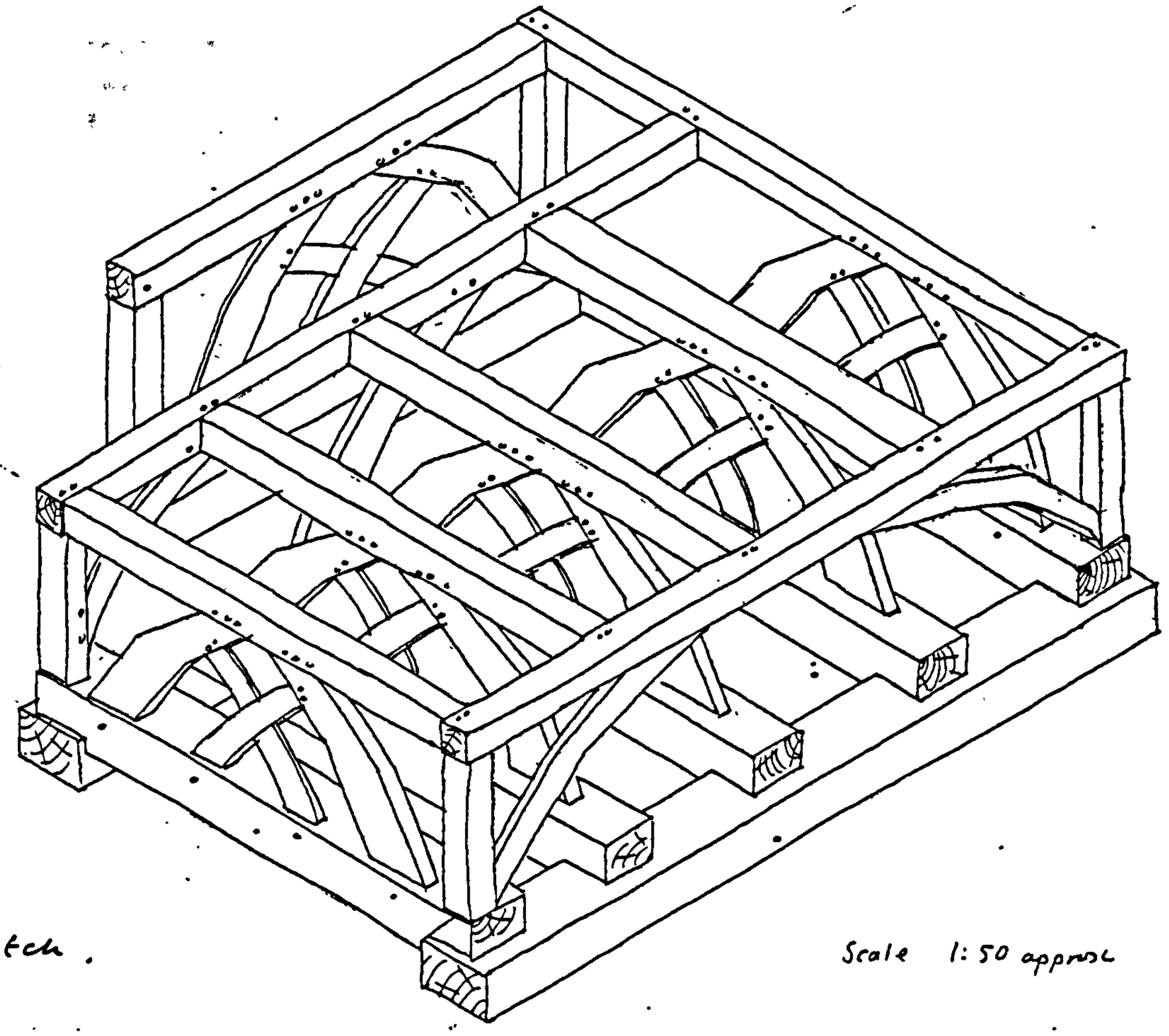


Eastern N-S truss



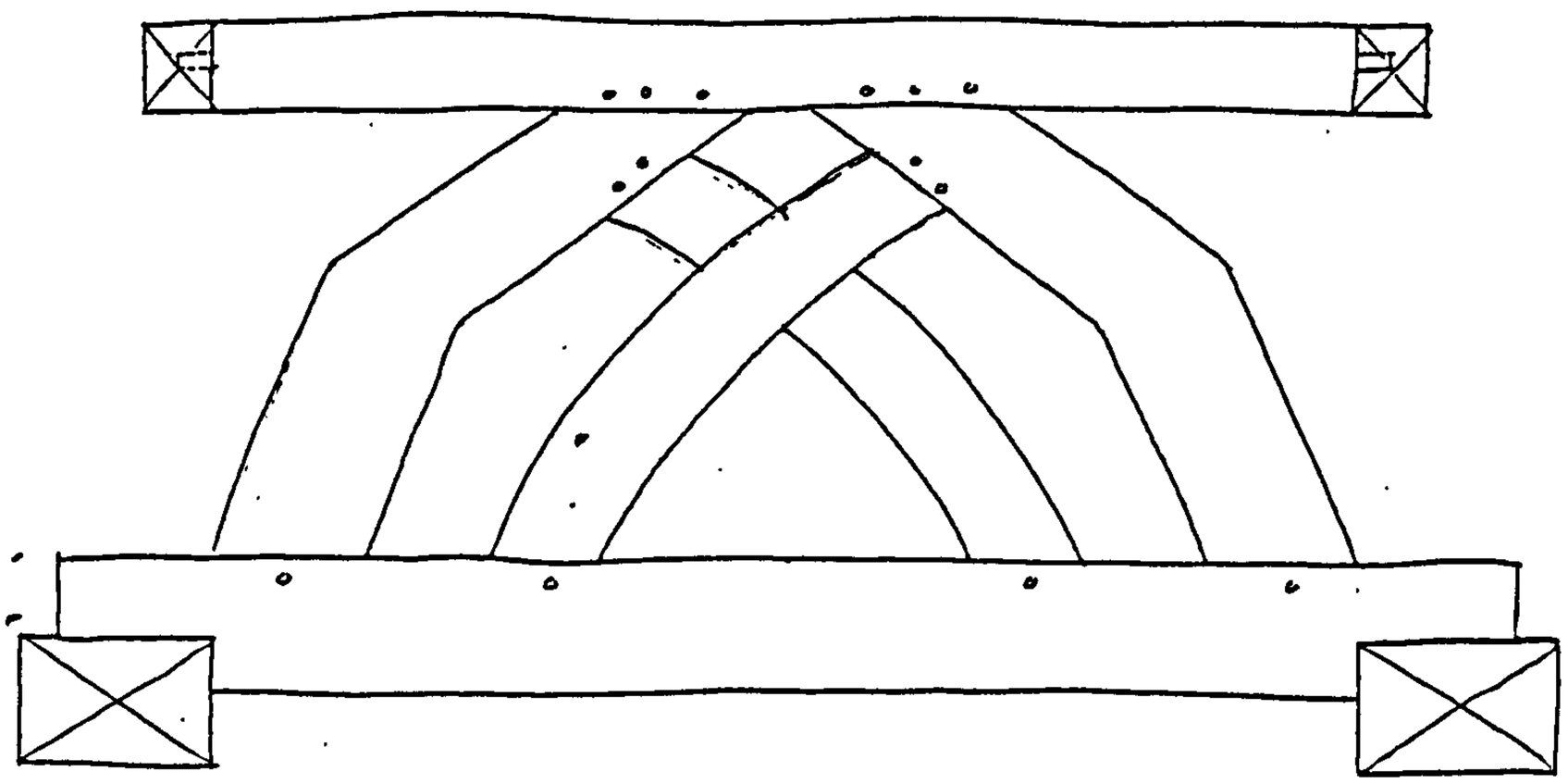
1. Sketches of pre-Reformation five-bell frame.

THOMPSON



Isometric Sketch.

Scale 1:50 approx



Typical frame truss.

Scale 1:25 approx

2. Sketches of pre-Reformation five-bell frame.

THE LAYOUT OF THE BELL-CHAMBER.

In most square towers the bell-frame is fitted with its outer members parallel to the walls of the bell-chamber and close to them, and in all the frames examined the pegs which secure the joints in the outer members of the frame are driven from the inside of the structure, leaving the tapered ends, unsawn, protruding into the inaccessible space between the timbers and the wall. This indicates that the bell-frame was assembled after the fabric of the bell-chamber was completed and not during the process of construction. In a few instances square bell-frames are arranged diagonally in square bell-chambers; with their corners resting in the reveals of the sound-windows[1]. Such an arrangement would not increase the available area for hanging the bells unless the tower walls were very thick, and any advantage of ease of access to the corners of the frame during its construction would be outweighed by the fact that the corner-posts, with their many vulnerable joints, are placed where they are most exposed to the action of wind-blown rain through the louvred sound-windows. A possible consideration which might suggest placing a bell-frame diagonally is that the the diagonal of a square tower is its strongest axis.

BELL-FRAMES IN ROUND TOWERS.

Fitting a square bell-frame into a round tower is almost proverbially difficult, and it would require an internal diameter of over 14 ft (4250 mm), with a consequent outside diameter of about 20 ft (6000 mm), to circumscribe a 10 ft (3300 mm) square bell-frame. In some cases the problem is overcome by excavating recesses in the tower walls to accommodate the corners of the frame to the considerable detriment of the strength of the tower fabric[2]. An alternative solution for a three-bell frame is to arrange for the largest bell to swing into a pair of opposite window reveals, and to shorten the outer trusses of the bell-frame, thus accommodating the smaller bells in the reduced space on either side of the middle pit[3].

Another solution is to place the corners of the frame in the window reveals and to open the window splays at the level of the frame trusses. With such an arrangement a 10 ft (3300 mm) square frame could be accommodated in a tower whose outside diameter was about 16 ft 6 inches (5000 mm). When a 'hollow-square' frame is accommodated in this way, the ends of the bell-pits are usually left open to allow the bells to swing into the window reveals, thus making maximum use of the available space[4].

1. At Tivetshall St. Mary, for example, see p. 186.
2. The round tower at Tuttington (outside the area of the survey) has been so deeply excavated that the fabric has, in the past, been tied together with numerous iron bars: the upper stage of the tower is now considered to be unsafe. Visited March 1984.
3. As at Eccles (visited April 1979).
4. See diagram of the frame at Bedingham (p. 246).

Even with the economical arrangement of having the corners of the bell-frame in the window reveals, the outer timbers of the bell-frame would be clear of the curved walls of the tower. A common method of making maximum use of the space available at the top of a round tower was to construct an octagonal bell-chamber. Of a total of 50 round towers examined in a rather wider area of Norfolk[1], 20 have an apparently later octagonal bell-chamber and it is probably significant that it is usually the smaller round towers which have octagonal extensions.

POST-REFORMATION BELL-FRAMES.

The considerable interest in changeringing which developed during the 17th century, and the corresponding changes in the character of rings of bells in parish churches has already been noted[2]. When a lighter ring of five and six bells displaced an older and heavier ring of three or four bells, considerable changes in the structure of the bell-frame were necessary; and many old frames show signs of considerable alteration and adaptation to accommodate remodelled rings of bells. An extreme case is noticed at Fundenhall[3], where the frame was designed for three bells weighing about 10 1/2 cwt, 14 cwt and 19 cwt and had been adapted to take a ring of five bells with a tenor of only 10 1/2 cwt. The introduction of generally lighter bells allowed a reduction in the size of timber used in construction, and the design of the trusses was altered to reflect the different requirements.

1. The hundreds of Forehoe, Giltcross, Humbleyard, Mitford, Shropham and Wayland were surveyed cursorily, in addition to those surveyed in detail.
2. See p. 349. 352.
3. See diagram of alterations to the Fundenhall frame, p. 116.

The additions and alterations to the frame at Carleton St. Peter show that, when the plan was extended to accommodate a proposed ring of five bells, the older design of king-post trusses was abandoned in favour of a much simpler arrangement where the trusses consisted of a pair of straight braces, inclined at an angle of about 45°, between the frame-heads and the foundations[1].

An excellent example of a bell-frame designed for a ring of five bells to be rung in full-circles remains at St. Stephen's church, Norwich[2]. The importance of the frame is that it can be securely dated to 1605-1606, and that it was installed by a named bell-hanger, Thomas Dymee, working in close conjunction with the Norwich bell-founder, William Brend, whose family supplied almost all those bells cast between c. 1564 and 1660 for south-east Norfolk churches[3]. The parish records at Ketteringham show that Thomas Dymee worked there with Brend when a ring of bells was installed in a new frame in 1614[4].

The plan of the St. Stephen's frame has the three larger bells swinging north-south (the stronger way of the tower in this case) in parallel pits with the two smaller bells at right-angles in a long, open-ended pit: the tenor bell, which would have weighed about 11 cwt, was hung in the centre of the bell-frame. The foundations of the frame are jointed together on a single level and are supported by a stout boarded floor. The trusses supporting the three heavier bells consist of a pair of straight braces, without a king-post, meeting below the point bearings of each bell, while the pit containing the two lightest bells is less heavily braced. The standard of carpentry is excellent. Frames of almost identical design are found associated with 17th-century rings of bells at Aslacton and Broome in the area surveyed, and at Caston, Heydon and Norwich St. George Tombland[5]. A fine three-bell frame of similar design is found at Denton, dated to about 1710, and there are numerous others. A similar tradition was carried on by Thomas Seaman who constructed five-bell frames at Dickleburgh (1727), and, probably, Tivetshall St. Mary (1727)[6].

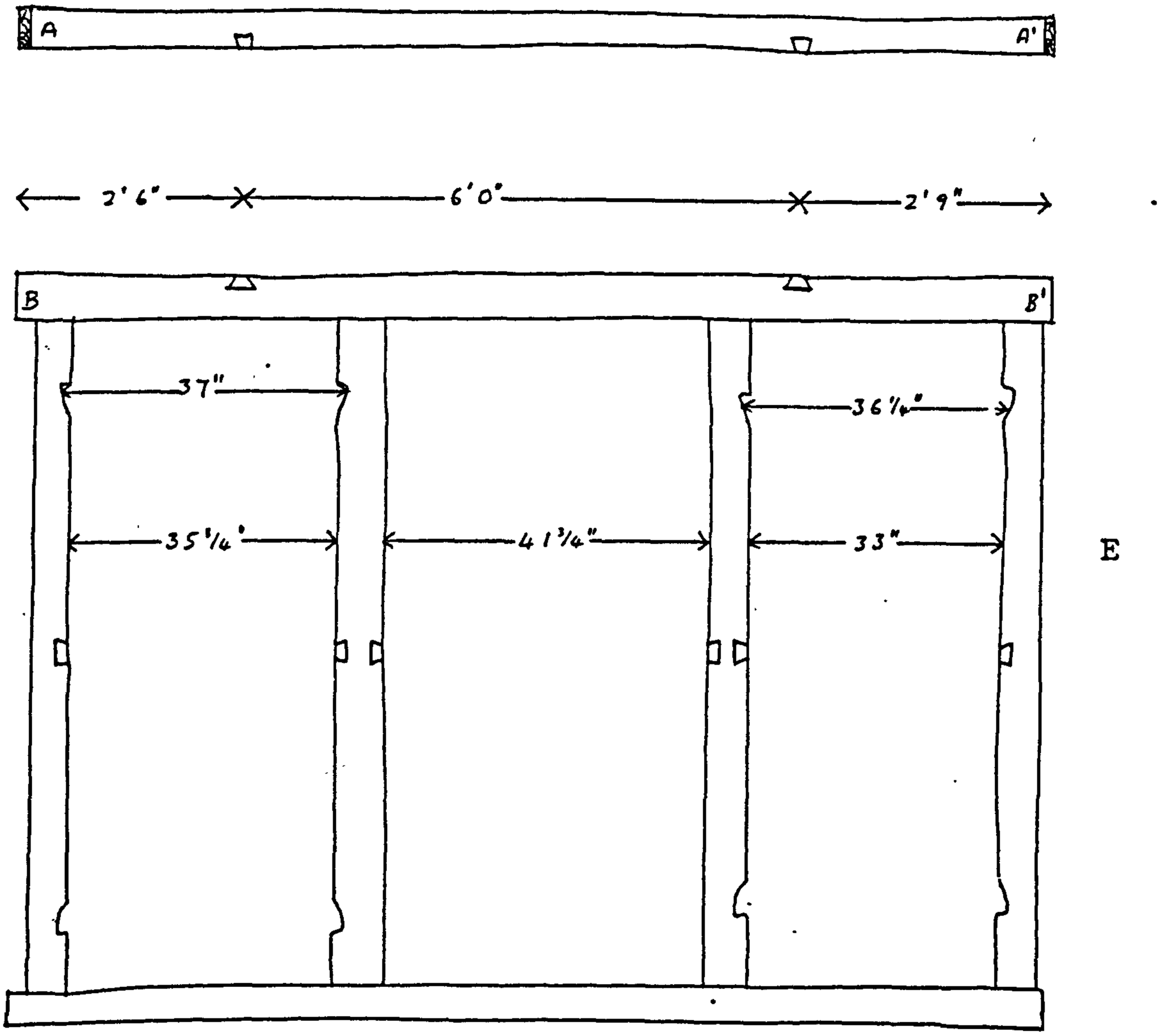
The king-post truss as a design did not, however, fall completely from favour, despite its obvious weakness for bells which were to be rung 'up'. The frame at Shelton, apparently installed in 1683, is of king-post construction, although unlike pre-Reformation frames in almost every other detail[7].

1. See diagram of the Denton frame, p. 196.
2. See diagram of the Norwich St. Stephen's frame, p. 385. The churchwardens' acounts, at the church, give full details of the work.
3. CBN, *passim*.
4. PD 14/13.
5. See pp. 91 and 249, the other towers visited at various times.
6. See pp. 168, 185.
7. See p. 129.

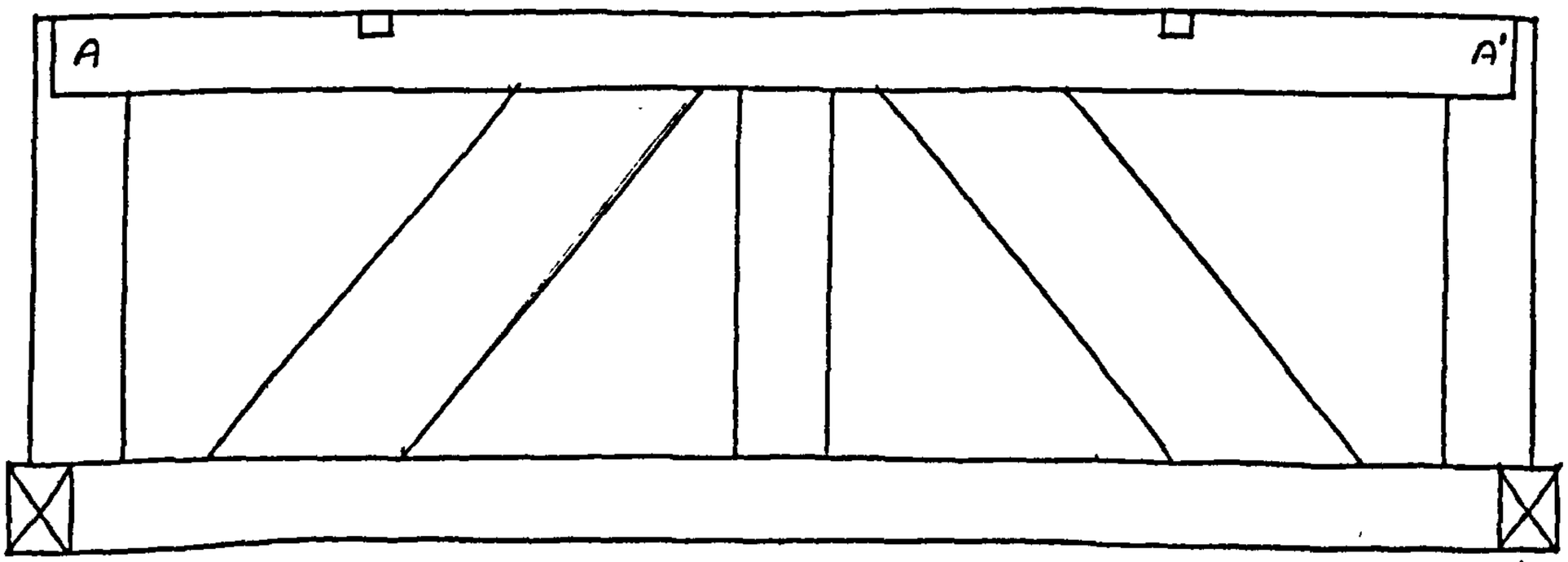
NORWICH, St Stephen.

March 1982.

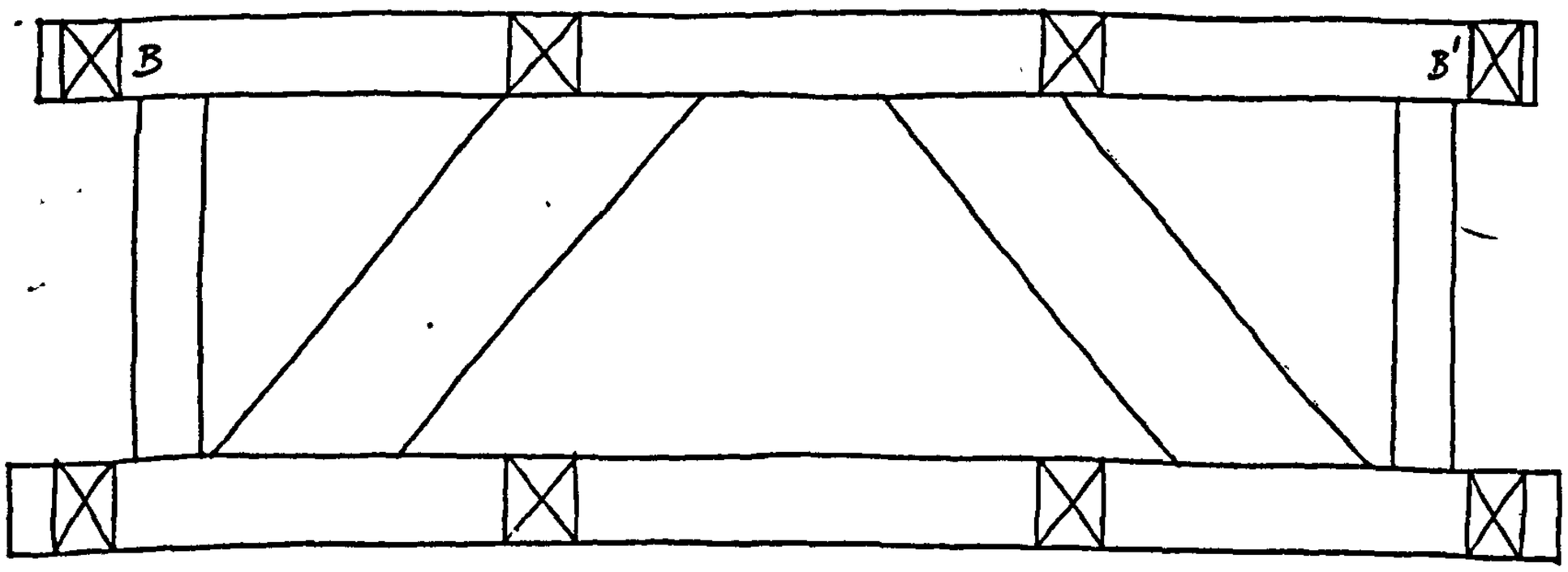
Plan of Bell-frame at 1:25



Truss along north wall.



Central truss.



DIFFERENCES BETWEEN PRE-REFORMATION AND LATER BELL-FRAMES.

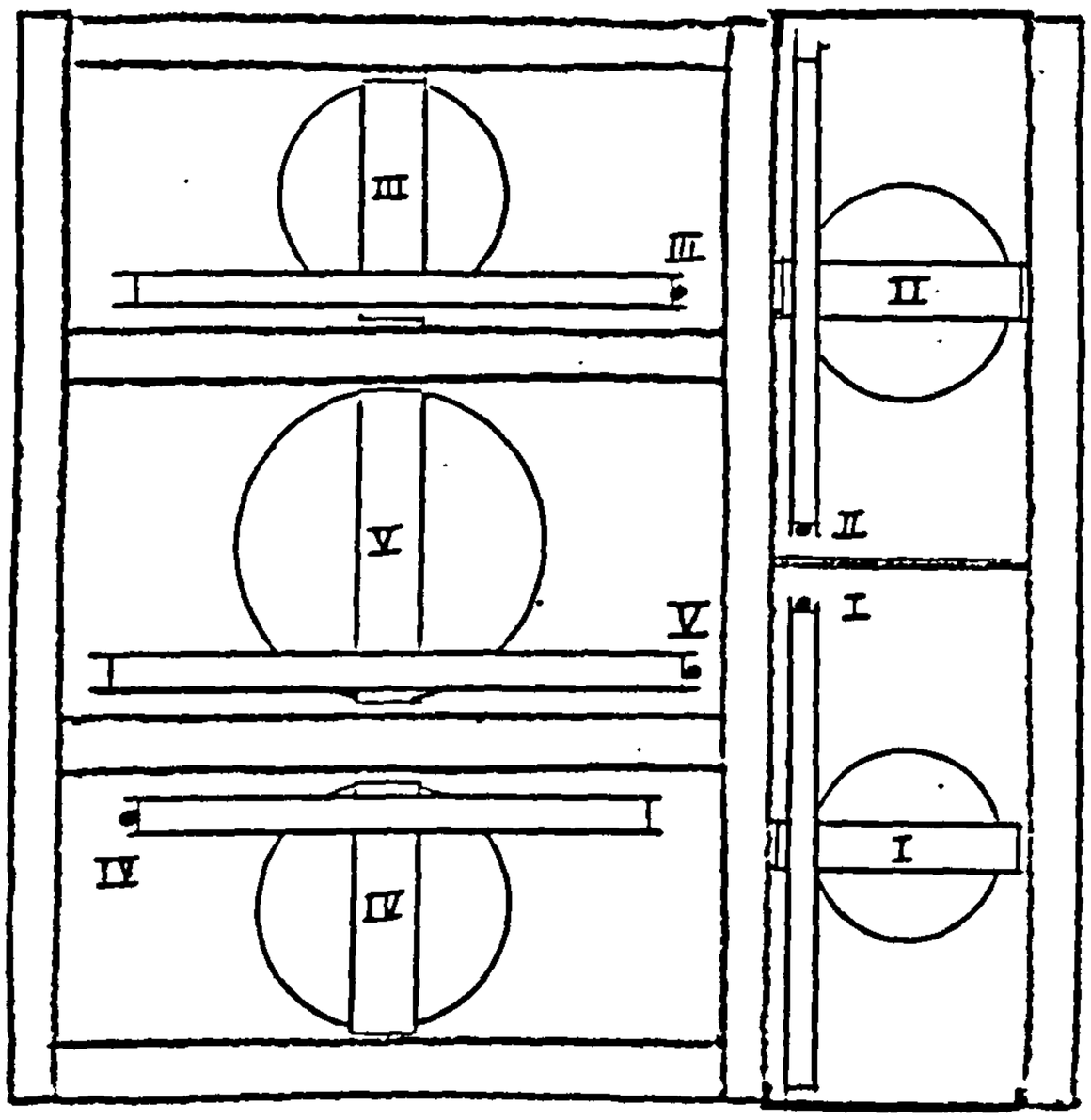
There are two main differences in design which set apart bell-frames constructed during the 17th century and later, and those which are apparently earlier, and the most significant departure from earlier practice appears in the design of the foundation members of the bell-frames. In all the earlier examples studied, the foundation members were jointed together with minimum loss of timber and the structure was often on two or three levels, relying on the strength of massive timbers for rigidity. Any floor beneath the bells was always well below the level of the foundations. The 17th-century practice seems to have been to rely on a stout floor to support the entire weight of the bell-frame and to spread the forces generated during ringing. The foundation timbers were laid on the floor at a single level and were jointed together using simple mortise and tenon joints. This weakening of the basic structure, by the introduction of the many joints, was compensated for by the support given to the foundations of the frame by the floor beneath. The floor supported the entire length of the foundation beams and allowed them to be cut from much smaller timber than was needed in the older frames, where foundation members were often cambered to give them the necessary stiffness to span the complete width of a tower. In no case has any form of jointing or connection been noted between an apparently 17th-century bell-frame and the floor beneath: the weight of the frame was usually sufficient to prevent movement relative to the floor. Similar arrangements are noted as common in 18th-century frames (at Brooke and Denton, for example) and in the many fine 19th-century frames installed by George Day and Sons of Eye[1]. The trusses of the 17th-century frames are similar to the later trusses described at Carleton St. Peter[2], and the has design continued to enjoy almost universal popularity through to the 20th century[3].

The usual plan for a new five-bell frame in the 17th century seems to have been to arrange for the three heavier bells to swing east-west in parallel pits with the two lightest bells swinging mouth-to-mouth at right-angles[4]. In most cases the tenor bell was placed in the centre of the frame, the most satisfactory place for attaining the best distribution of forces as the bells are rung, but a difficult arrangement of bells from which to draw the bell-ropes into a proper 'circle'. This practice seems to have fallen from favour in later bell-frames[5], and the position of bells is usually dictated, at least in part, by the need to produce a circle of ropes in the ringing-chamber with good 'ropesight' to allow changeringing to take place with ease[6].

The two major differences in design between apprently pre-Reformation and later bell-frames,as noted above, seem to accord with documentary sources for the dates of bell-frames and are, perhaps, the most useful for giving a first estimate of the probable date of a timber bell-frame.

1. See, for example,the frames at Brockdish and Tharston.
2. See p. 254.
3. See the 20th-century frames at Forncett St. Peter and Tacolnestone.
4. See plans, p. 387.
5. *Ibid.* 6. *Ibid.*

PLANS OF BELL-FRAMES

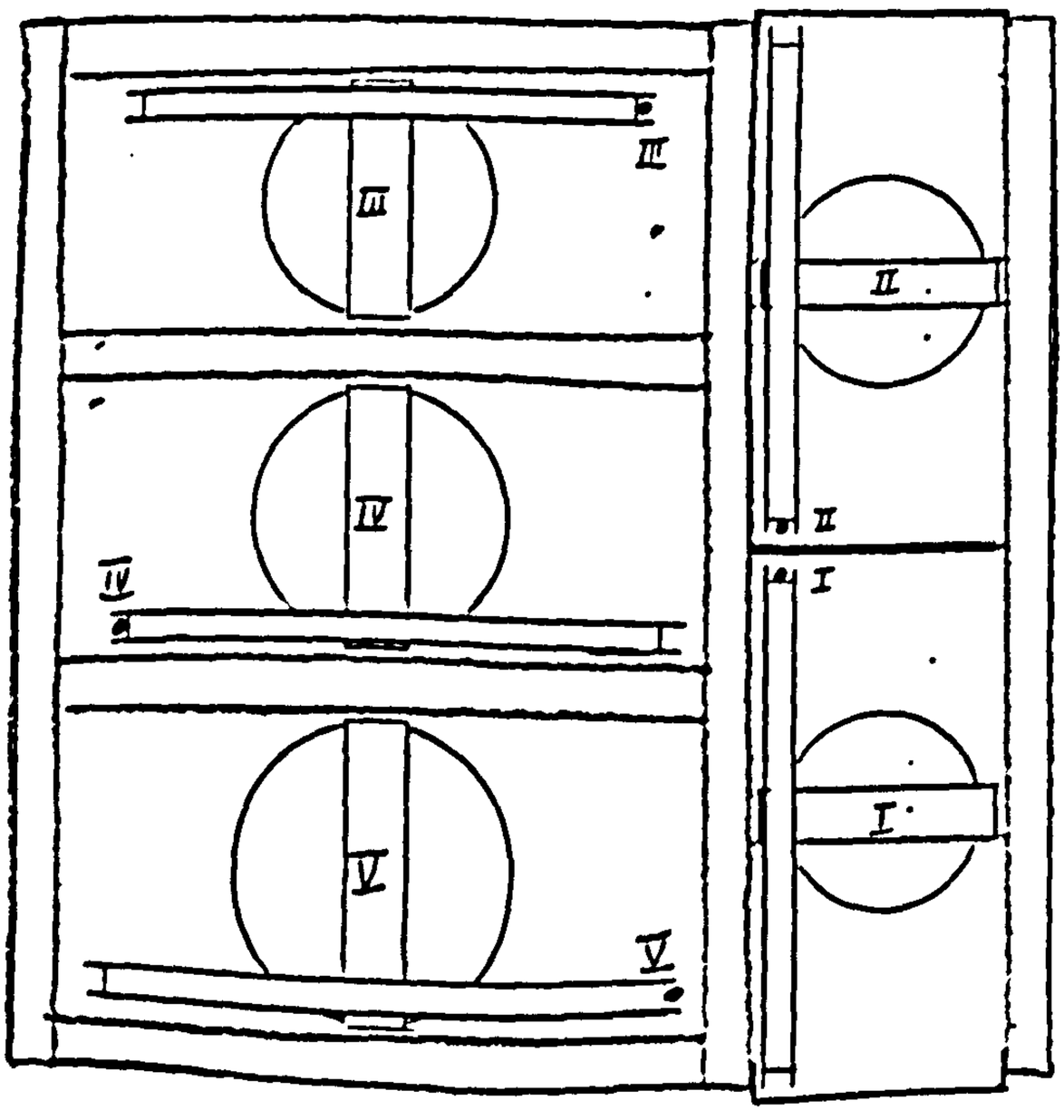


Five-bell frame of c. 1640,

showing wheels and rope-falls,

heaviest bell in centre of tower,

ropes do not fall numerical order.



Five-bell frame c. 1614,

showing wheels and rope-falls,

heaviest bell at side of tower,

ropes fall in numerical order.

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VI. APPENDIX — THE BELL-FOUNDERS

UNDATED BELLS ASCRIBED TO FOUNDERS BEFORE c. 1560.

INTRODUCTION.

Most bells cast after the middle of the 16th century are dated and inscribed with their makers' names, but the dating of earlier bells and the ascription of them to named bell-founders is notoriously difficult. Walters[1] gives what he claims to be a complete list of bells which bear dates between 1296 and 1559, and of the 40 entries in this list, there are only three relating to bells in Norfolk churches: Salhouse (1481), Islington (1556) and Reepham (1559). Walters[2] lists a further 40 bells, cast before 1560, as the total which bear their founder's name: the Norfolk founders listed include four from Norwich (Richard Baxter, Richard Brasyer, William de Norwyco and Thomas Potter), four from King's Lynn (John Godyng, Edmund de Lenne, Thomas de Lenne, John de Lenne) and three whose place of origin is not known (Walter Blower, William Silisden and Thomas Derby). The usual method[3] adopted in an attempt to ascribe dates and founders to bells is to examine and compare design, lettering of inscriptions, and founders' trade-marks, when they appear.

DESIGN OF BELLS.

There is no doubt that a great deal of travelling was necessary to obtain the metal required for the casting of bells, and contact between founders working in Norfolk and those working in other places would have been inevitable. The Sacrist's accounts at Ely for 1345/1346 show that John of Gloucester, the bell-founder employed to cast four very large bells for the Cathedral, went himself to Lynn, and sent his apprentices to Northampton in search of bell-metal: he also went as far as Lynn to find suitable clay for the making of his bell-moulds[4]. At Norwich, when the belfry had been rebuilt in c. 1310, the Master of the Cellar sent to London for suitable metal from which to cast a large new bell at the expense of Prior Lakenham: the metal was brought from London and the bell was cast by local founders[5].

1. CBE., p, 317.
2. CBE., p, 318.
3. This method of classification is adopted by most students of bells. See, for example, H. B. Walters' classifications in CBEx., CBWa., and CBWo. for example.
4. D. J. Stewart, *On the Architectural History of Ely Cathedral*, London, 1868, p. 117.
5. NRO., DCN., Obedientiary Roll 22 (Camera Prioris) 1310-1311.
   'In metallo ad campanam apud London' xx li.
   In cariacione eiusdem metalli xj s.
   In liberatione Nalli apud London' per manus Bauchun v s.
   In liberatione Thome de Celar' et Crop versus London iiij s.
   In factura campane et in expensis sic patet per billam xij li. ix s. ij d.'

It is hardly surprising that there is a certain similarity of design between the bells produced by contemporary founders working from different centres, and there are a number of characteristics which may be used to relate bells of similar age from different bell-foundries. The proportions of a bell (especially the ratio of the height to the radius measured at the lip of the bell) appear to be, in general, a good indication of the approximate date of a bell, and it is generally accepted that the ratio of height to lip-radius is greater in older bells[1]. The ridges, called moulding wires, observed on the outside of bells are produced by the rotation of a moulding template, or strickle, when the matrix in which the bell is to be cast is made. Bells made from the same pattern would have identical moulding wires (apart from possible distortion when the soft, unbaked, clay model of the bell was wiped down or when the stamps for the inscription were applied), and it is likely that a founder would have a set of similar strickles for bells of different sizes[2]. The moulding wires assume the forms of half-rounds, bevels and flat bands, and the pattern appears often to depend on fashion rather than necessity. While half-rounds and bevels in various combinations are commonly found, in only two cases, both of them bells cast by Henry Yaxley in c. 1670[3], have flat bands been found on dated post-Reformation bells. Careful analysis of the form and layout of the moulding wires can enable bells by the same founder to be identified, and can often suggest a possible date for a completely uninscribed bell.

INSCRIPTIONS.

Most of the bells examined have neatly-formed inscriptions, in a band below the shoulder of the bell, which were placed on them at the time of casting. Until comparatively recently the letters were formed from wax impressions made in a set of pottery moulds: the wax letters were attached to the soft clay model of the bell and melted when the cope was baked, leaving indentations into which the molten metal ran at the time of casting the bell[4]. The few bells which are inscribed with portions of the alphabet rather than with properly formed words show that the pottery matrices were in the form of long strips, with the letters in alphabetical order, and on a number of bells the wax impressions have become distorted, or even broken, in the process of transfer from the pottery moulds to the bell.

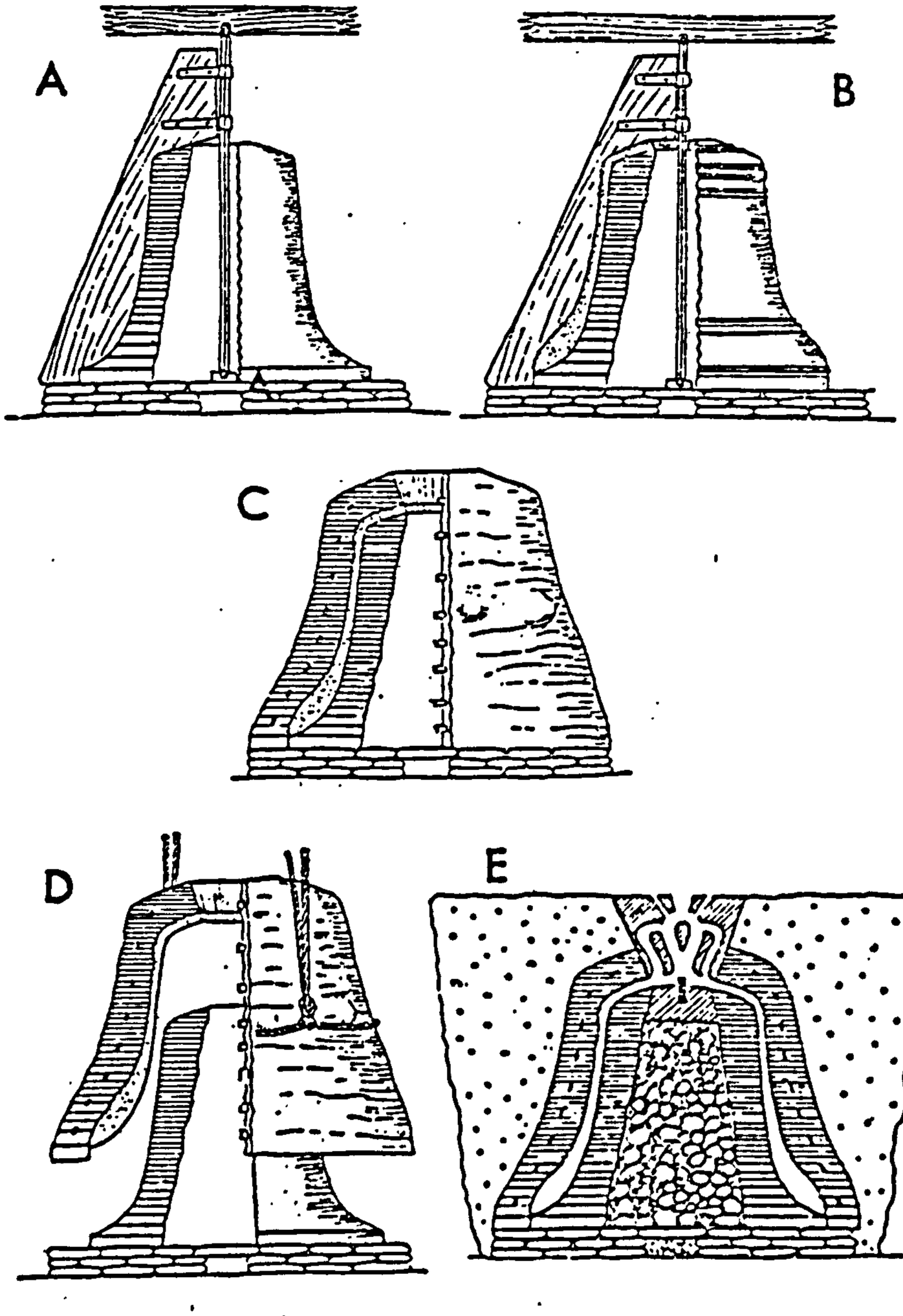
On undated bells the language is almost invariably the Latin of the pre-Reformation church, and, although there is a considerable variety in the content of the inscriptions, the usual form is metrical, prefixed by an initial cross, with a stop at the caesura. Various forms of the Salutation are relatively common, ranging from the simple

'AVE MARIA'

at Caistor by Norwich to fuller versions. Several other inscriptions in honour of The Blessed Virgin Mary have been noted:

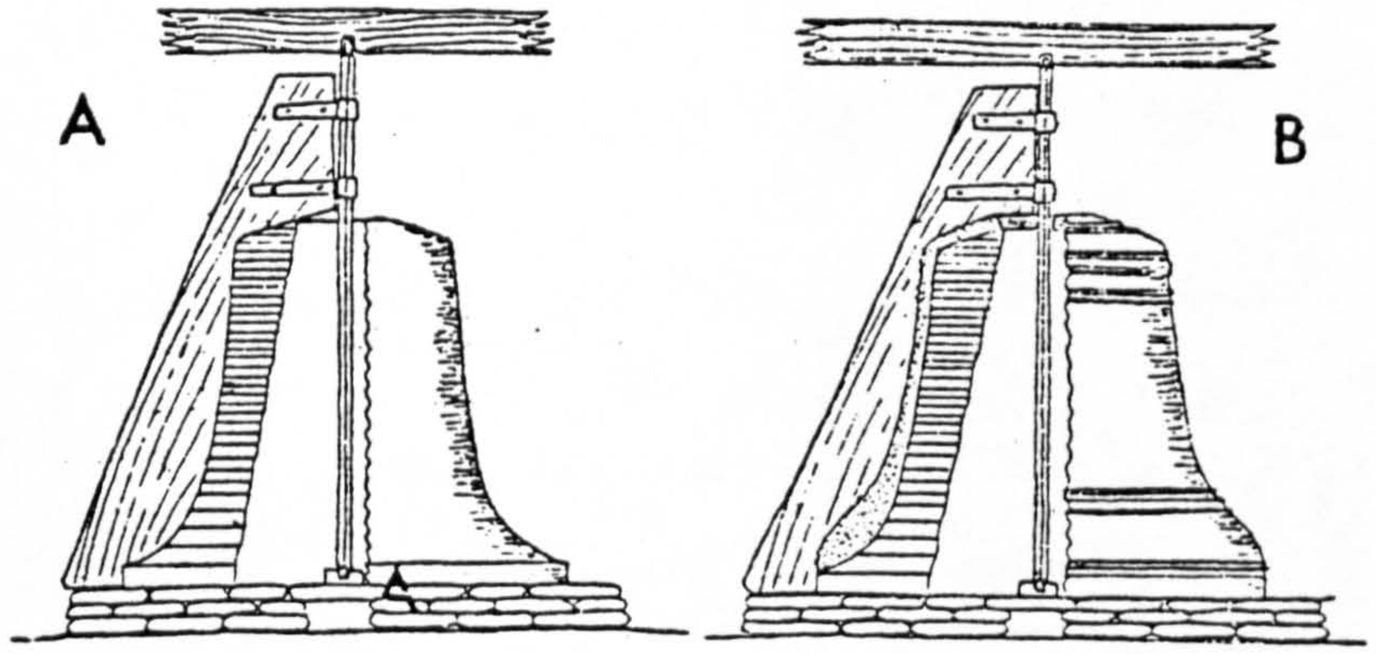
1. G. P. Elphick, 'The dating of uninscribed bells', *Ringing World*, April 20th 1973, pp 307, 308.
2. See diagram, p. 393.
3. At Fritton (p. 108) and Bressingham (p. 161).
4. CBS 2., pp 5 - 10, gives a clear and well-illustrated description.

DIAGRAM SHOWING THE METHOD OF CASTING AND MOULDING A BELL



A, *Strickling the Core.* B, *Strickling the Model.* C, *Putting on the Cope.* D, *Lifting off the Cope and Model.* E, *Ready for Pouring*

DIAGRAM SHOWING THE METHOD OF
CASTING AND MOULDING A BELL



A, *Strickling the Core.* B, *Strickling the Model.* C, *Putting on the Cope.* D, *Lifting off the Cope and Model.* E, *Ready for Pouring*

'Virginis Egregie : Vocor Campana Marie'

'Sum Rosa Pulsata Mundi : Maria Vocata'.

References to the Annunciation appear on a number of bells

'Missus De Celis : Habeo Nomen Gabrielis'

'Hac In Conclave : Gabriel Nunc Pange Suave'.

Dedications to a variety of saints appear, of whom St. Peter is popular

'Petrus Ad Eterne : Ducat Nos Pascua Vite'.

Bells dedicated to St. John are also common

'In Multis Annis : Resonet Campana Johannis'

'Munere Baptiste : Benedictus Chorus Iste'.

A small number of bells have letters arranged as sequences from the alphabet[1], and there are a few examples where letters are arranged in a meaningless jumble[2].

FOUNDERS' MARKS.

Founders' marks, which usually appear on the crown of a bell rather than on the inscription band, in combination with the lettering of the inscription, are the most useful feature distinguishing between the work of different bell-founders.

IDENTIFICATION OF BELLS CAST BEFORE c. 1560.

The common design features and the almost invariable use of Latin for inscriptions suggest strongly that most of undated bells examined were cast before c. 1560[3]. In a number of cases bequests suggest possible dates of casting for bells at individual churches and, although one can never be sure that a particular bell is that referred to in a given will, the comparison of features of a relatively large number of bells with information from wills has revealed a fairly consistent pattern, and it is possible to suggest dates for various groups of bells, which can then be compared with those of known bell-founders operating in the locality[4].

1. See, for example, the tenor at Bedingham, p. 243.
2. See, for example, the two larger bells at Fritton, p. 108.
3. This supposition has invariably been made by writers on bells, see the bibliography for examples of their publications.
4. The usual method of attributing bells to founders relates definite groups to founders whose names have been traced in records, but the writer has found few instances where the evidence of bequests has also been employed.

In the following sections dealing with the earlier King's Lynn and Norwich bell-founders, the dates given are those of their earliest and latest appearances in documents: unless an admission to the freedom of Norwich or Lynn has been traced, or the date of death has been found, entries are prefixed and followed by a dash to indicate that a founder's career probably extended on either side of the dates given.

THE KING'S LYNN BELL-FOUNDERS

The situation of King's Lynn on a navigable arm of the Wash, with river communication through the Fenland rivers to parts of Lincolnshire, Northamptonshire, Cambridgeshire, Norfolk and Suffolk, made it an excellent centre for heavy industry, and it has been noted that bells and brass pots were among the merchandise on which levies were made at the Lynn Tolbooth as early as c. 1240[1]. It is also known that when the new bells for Ely cathedral were cast in 1345, the bell-founder, John of Gloucester, was able to obtain suitable clay, copper and tin at Lynn[2]. The history of the Lynn bell-founders, published by L'Estrange in 1874[3], however, needs modification in the light of more recent research among local documents.

JOHN DE LENNE
- c. 1299 -

No record of entries to the freedom of Lynn survives before 1292[4], but L'Estrange quotes a Tallage roll of 1299 which refers to 'Magister Johannis, fundator campanarum'[5]. It is not possible to make any positive suggestion regarding his identity, but it is noted that a bell at West Somerton[6], which is thought to have been cast in about 1320[7], bears the name of 'IOHANNES DE LENNE' and has lettering which is identical to that on bells at Salle, Trunch, Woodrising and North Tuddenham, all of which have the characteristics of 14th century bells[8]. It seems very likely that the Master John of the Tallage roll is identical to the John de Lenne who cast the Somerton bell.

THOMAS BELLEYETERE.
- c. 1322/23 -.

The admission of Thomas Belleyetere to the freedom of Lynn has not been traced[9], but L'Estrange[10] discovered an entry relating to him in a

1. R. Howlett, 'Tolls levied at the King's Lynn Tolbooth in the 13th century', *Norfolk Antiquarian Miscellany*, Norwich, 1887, vol. III, part 2, pp. 603 - 609
2. D. J. Stewart, *On the architectural history of Ely cathedral*, London, 1868, p. 117. See also p. 391.
3. CBN., pp. 22 - 24.
4. W. Rye, *A calendar of the freemen of Lynn, 1292 - 1836*, Norwich, 1913, see the introduction.
5. He suggests that 'Master John' should be identified with Master John de Riston, whose name appears on a bell at Bexwell: Raven (CBS., p.8.) goes further and surmises that John de Lenne, alias John de Riston, is also identical with John Godynge (or John de Guddinc) whose name appears on bells at Wendling, Norfolk and Worlington, Suffolk.
6. CBN., p. 212. 7. CPW., p. 18. 8. CBN., p. 22.
9. Rye, *op. cit.*, 1913. 10. CBN., p. 22.

Subsidy roll of 1322/33. A number of bells which appear to be of 14th century design carry the name Thomas, including those at West Newton (formerly at Babingley)[1], North Tuddenham[2], and Long Stratton[3]: bells, since recast, at Wood Rising[4] and Trunch[5], also named their founder as Thomas de Lenne.

EDMUND BELLEYETERE.
1344/45 - 1353 -

The admission of Edmund Belleyetere to the freedom of Lynn took place in 1344/45[6], and L'Estrange quotes the record of money owed by the Chamberlain of Lynn for an old bell purchased from Edward Belleyetere in 1353[7]. It is very likely that Salle 6/8, which is inscribed[8]

'EDMVNDVS DE LENNE ME FECIT',

and which is of very similar design to the bells at Long Stratton and North Tuddenham; noted above, is his work. Another admission in the record of freemen of Lynn refers to one Edmund Belleyetere, son of Thomas Belleyetere, in 1364/65[9], but the account rolls of the Trinity Guild of Lynn show[10] that he was a merchant who handled all manner of commodities with the exception of bells.

WILLIAM SILISDEN
1376/77 - 1409.

William Silisden was admitted to the freedom of Lynn in 1376/77[11], and he is the likely founder of the three bells at Great Walsingham[12], the largest of which is inscribed

'WILLMVS SILISDEN ME FESID'.

The design of the three bells differs greatly from that of bells ascribed to earlier Lynn founders, and the alphabet employed by William Silisden differs from that used by them. Various references to William Silisden have been traced in Lynn documents through to a will dated 1409[13] in which there is no mention of bell-founding, and it is possible that he disposed of the foundry to a successor before his death[14].

1. CBN., p. 94 and CPW., p. 18.
2. Visited, April, 1979.
3. Visited, January, 1978.
4. CBN., p. 201. 5. CBN., p. 87.
6. Rye, *op. cit.*, 1913, p. 8.
7. CBN., p. 22.
8. Visited, November, 1980.
9. Rye, *op. cit.*, 1913, p. 16.
10. NRO. KL/C38/ rolls 1 - 7, for example.
11. Rye, *op. cit.*, 1913, p. 21.
12. Visited, April, 1982.
13. See H. Ingleby, *The Red Register of Lynn*, King's Lynn, 1922, ff. 121, 126d, 130, for example, his will being found at NRO., KL/C12/9.
13. See John de Riston, p. 397.

JOHN DE RISTON
1385 - 1390 -

John de Riston's admission to the freedom of Lynn, where he is described as a bell-founder, is dated 23 July 1385[1], and his name occurs on a bell at Bexwell[2]. As well as casting bells in his own right, he appears to have acted as an agent for the Norwich bell-founder, Robert Brasyer, and a lawsuit in 1390[3] shows that he was not then thought to be fulfilling his obligations faithfully.

JOHN GODYNG
Possibly early 15th century.

No record of an admission to the freedom of Lynn has been traced, but the rolls for the periods 1403 - 1411 and 1414 - 1418 are missing[4]. It is, however, certain that bells were shipped at Lynn between c. 1410 and c. 1423, since the records of the Trinity Guild, who owned a staithe and warehouses, record receipts for the winching of bells[5]. The type employed on the bell at Bexwell is identical to that on bells at Wendling[6], Norfolk and Worlington, Suffolk[7], both of which bear forms of the name of John Godynge, and it would appear that the latter, whose bells are of the finest quality, might have been roughly contemporary with John de Riston.

THOMAS DERBY
1450/51 -

In his admission to the freedom of Lynn[8], Thomas Darby is described as a bell-founder, and his name appears on a number of bells. Two bells at Ampton[9], Suffolk are of very similar design, have common founder's marks, but have inscriptions which employ different sets of capital letters: the smaller bell bears the name 'Thomas' and the larger bears the name 'Derby'. Other bells bearing his surname have been noted at New Houghton, Norfolk, Burnham Deepdale, Norfolk, and Chippenham, Cambs, while his lettering is noted on bells at Wimbotsham

1. Ingleby, *op. cit.*, 1922, f. 122 d, where the entry appears as 'John de Biston'. The original register was examined at Lynn by Miss Susan Maddocks, of the Norfolk Record Office, who reports that the entry should read 'John de Riston'.
2. CBN., p. 101.
3. PRO., CP 40/519 (1390) where the entry reads 'Robertus Brasyer civis Norwici per Nicholaum de Charwod attornatum suum obtulit se iiij die versus Johannem de Ruston de Lenn, Belleyetere, de placito quod reddat ei rationabilem compotum suum de tempore quo fuit receptor denariorum ipsius Roberti. Et ipse non venit et preceptum fuit vicecomitate quod summoneatur. Et vicecomes modo mandat quod nichil habuerit et ideo capiatur ...'
4. Rye, *op. cit.*, 1913, introduction.
5. NRO., KL/C38/1 - 16 *passim*, the series is incomplete.
6. CBN., p. 23, visited March, 1981.
7. CBN., p.23.
8. Rye, *op. cit.*, 1913, p. 51.
9. Visited, April, 1982.

and West Lynn[1]. The founder's marks which are common to all bells in the group are impressions of crowned heads, and one of the two alphabets employed, together with its attendant stop and cross, was probably in the hands of Norwich bell-founders during the early years of the 15th century[2].

It is likely that Thomas Derby learned his craft at Norwich, probably working with Thomas Potter, where he cast a few bells as one of the tenants of the Westlegate foundry before removing to King's Lynn[3].

No record of the admission of any later bell-founder to the freedom of Lynn[4] has been found. Local church records show that major work on the bells at St Margaret's Church and at St Nicholas' Chapel was undertaken by a variety of founders in the late 15th and 17th centuries[5], and that business was mostly with the Thetford bell-founders between 1598 and 1626, although the chapelwardens of St Nicholas' chapel had dealings with one James Edbury (based at Bury St. Edmunds[6]) who, in 1617, undertook to recast a bell in a specially constructed 'furnace' at St. Germans[7]. Other founders from Stamford, Ipswich and Bury St. Edmunds were subsequently employed at various times[8], and in 1684 a bell was recast for St. Nicholas' chapel by Christopher Graye at Haddenham[9]. Closely associated with Christopher Graye of Haddenham was one Charles Newman, who probably worked as an assistant to Graye before taking charge of the business in 1684[10]. The records of St. Michael's church, Cambridge[11], show that Charles Newman recast the tenor bell in 1684 at King's Lynn, and it is not unlikely that, having worked on the St. Nicholas' bell with Graye, he decided to remove the business to the more convenient centre at King's Lynn in the same year. He cannot have remained long at Lynn, since he was working from a foundry at Botesdale, Suffolk by 1691[12].

UNDATED BELL ASCRIBED TO A KING'S LYNN FOUNDER.

The only bell in south-east Norfolk ascribed to a King's Lynn bell-founder is Long Stratton 4/6[13].

1. J. C. L. Stahlschmidt, *Surrey Bells and London Bellfounders*, London, 1884, p. 35. Stahlschmidt, however, notes the group of bells and, having conveniently omitted the smaller of the two bells at Ampton from his list, ascribes them, on very tenuous grounds, to one Henry Darby of London, in the period 1362 - 1390 (*op. cit.*, p. 74).
2. See p. 434. 3. *Ibid.* 4. Rye, *op. cit.*, 1913, *passim*.
5. NRO. PD 39/74, St Margaret's accounts 1592 - 1573. There is also a manuscript index, with extracts from the accounts, by E. M. Beloe (NRO. PD 39/72 and PD39/73).
   NRO. PD 39/355, St Nicholas chapelwardens' accounts, 1616 - 1719. These have been partly transcribed and printed: E. M. Beloe, *Extracts from the Chapel Wardens' Accounts of St Nicholas' Chapel, King's Lynn*, King's Lynn, 1928.
6. CBS., p. 109. 7. Beloe, *op. cit.*, 1926, see under year 1617.
8. Churchwardens' and chapelwardens' accounts (see note 5) *passim*.
9. NRO. PD 39/144, the agreement for the work.
10. CBC., p. 95. 11. CBC., p. 94. 12. See NRO. PD/100/77.
13. See p. 396.

THE NORWICH BELL-FOUNDERS, c. 1220 - c. 1560.

GODFREY LE BELLEYETERE
- c. 1220 -

RALPH LE BELLEYETERE
- c. 1260 -

The evidence for the names of the two earliest Norwich men who can be identified (by their names) as bell-founders[1] is contained in three deeds among the collection belonging to the Dean and Chapter of Norwich. In a deed which can be dated to the period 1257 - 1266, one John le Peintur conveys to the Prior and Convent of the Holy Trinity in Norwich, for the health of his soul and those of his father and mother, a tenement in the parish of St Peter in Conesford[2], Norwich, the income from which to be at the disposal of the Refectorer[3]. In the deed John le Peintur refers to his father as Godfrey le Belleyetere, and the abuttals mention adjacent property occupied by Ralph le Belleyetere.

Assuming a date of c. 1260 for the conveyance of the property from John le Peintur to the Prior and Convent, it would appear that Ralph le Belleyetere was alive at that time: the fact that the donor was sufficiently well-established to make such a gift in c. 1260 suggests that he was probably in his middle-age, and that his father, Godfrey le Belleyetere, might have been working from about c. 1220. That Ralph le Belleyetere was

1. The term 'bellyeter' appears in Norwich documents from c. 1260, and the Oxford English Dictionary definition (see under 'bell') is 'bell-yetter, literally bell-pourer'. The term 'yetting' and variants were in use at late as 1590 to describe the operation of casting a bell (see the Tibenham churchwardens' accounts at the Cambridge University Library among the Buxton Mss., case 34, bay 3, shelf 2.).
2. The parish is that which is at present referred to as St. Peter Parmentergate, as is clear from the returns of rent from the property which appear in the Refectorer's rolls (NRO., DCN., Refectorer's rolls, R 235 A): in a roll for 1450, for example (Roll 836) it is specifically defined as a tenement formerly owned by Ralph le Belleyetere in the parish of St. Peter Parmentergate in Conesford.
3. Three deeds, in fact, remain. DCN. deed no. 206 is dated May 3rd, 1331, and confirms rent from the tenement (referring to previous occupiers) to the Castle fee. DCN. deed no. 558 is undated but refers to Prior Roger, who can only be Roger de Skerning, 1257 - 1266, there being no other Prior with that Christian name (Saunders, p. 190): the deed is, in fact, a lease of the property to Walter de Marisco and gives the abuttals, mentioning a rent due to the Castle fee. DCN. deed no. 105, undated, is the original deed of conveyance between John le Peintur and Prior Roger and has eight witnesses in common with deed no. 558, suggesting that it is almost contemporary.

casting bells on the site is possible, although this cannot be confirmed from the documents, but it is of interest that the abuttals of the three deeds relating to the property refer to neighbouring bell-founders, glasswrights[1], and latoners[2], as well as the painter himself. It is possible that the particular area in the parish of St. Peter Parmentergate might have been a centre where a number of ecclesiastical craftsmen were based.

Rye, in his calendar of the freemen of Norwich[3], describes one John de Rudham, 'campanarius', as the earliest of the Norwich bell-founders. The rolls of the Cathedral Priory, however, suggest that he was a clerk whom they employed on a number of causes[4], and his description as 'campanarius' is much more likely to imply that he was responsible for arranging the ringing of the cathedral bells for various occasions[5].

MARTIN LE BELLEYETERE
- c. 1292/93 -

The only appearance of a man by this name who was probably a bell-founder is in the Court-Leet rolls, where he is fined for harbouring a groom belonging to another tithing in the city[6]: it may be significant that Martin le Belleyetere belonged to a tithing in the same area of Norwich as the two bell-founders suggested above[7].

ROBERT DE WALPOLE'
- 1314 - 1322 -

Robert le Belleyetere appears in two enrolments in the court rolls of the city of Norwich in 1314 and 1316, and as Robert de Walpole 'alias le Belleyetere' in a roll of 1322[8].

ALAN LE BELLEYETERE
- 1316 -

In a deed of 1316[9] one Alan le Belleyetere, described as the son of Richard Poche of Preston, conveys property.

1. Robert le Glaswright in DCN. deed no. 206.
2. Thomas de Surlingham in DCN. deed 206 appears in a deed of 1332 (NCR., roll 8, membrane 20.) as a latoner.
3. W. Rye, *A short calendar of the deeds ... enrolled ... 1285 - 1306*, Norwich, 1903, p. xii.
4. See, for example, NRO., DCN., Communar's roll 1029A (1283) where he is paid the sum of 6 s. 8 d. for examining litigation related to the will of Prior Roger de Skerning.
5. See Platt (1981) for the duties of a clerk, or suffragan, in a parish church, and compare with a similar explanation of the title 'campanarius' in Walters CBE., pp. 85,176.
6. W. H. Hudson, 'Leet Jurisdiction in the city of Norwich during the XIII and XIV centuries', *Selden Society Publication*, London, 1892, p. 42.
7. See p. 399 and note 2. above.
8. NRO., NED., Roll 7, membrane 3 (1314), roll 8, membrane 5 d (1316), and roll 10, membrane 2 (1322).
9. NRO., NED., roll 7, membrane 15d.

After 1315 the record of admissions to the freedom of the city of Norwich is available for consultation[1], and a number of later bell-founders can be traced therein: it is also possible to identify a few bell-founders on the evidence of bells which bear their names.

WILLIAM DE NORWYCO
Second half of the 14th century.

The name of William de Norwyco has not been traced in the Old Free book, but it appears on a number of bells in the vicinity of Norwich, one of which can be dated to within the period 1362 - 1384[2]. The single bell at Hellesdon[3] is inscribed

'IOHNES DE HEYLESDON ME FECIT FIERI IN HONORE MATRS CRESTI
WILELLMVS DE NORWICO ME FECIT',

and the words suggest that John de Hellesdon caused it to be made during his lifetime. The advowson of Hellesdon was conveyed to Walter de Berney, Richard de Hellesdon and his son John de Hellesdon in 1362/63[4], and on a brass recording the date of his death in 1384 John de Hellesdon is described as patron of the church[5]. The construction of a new tower, or the addition of a bell-chamber to an older tower, must often have been an occasion for installing new bells, sometimes cast in advance of the building work. Bells bearing the lettering used by William de Norwyco are found in the towers at Barford, where there were bequests in 1397 and 1398[6], and at Bintree, where there was a bequest in 1385[7]. It seems likely that William de Norwyco was no longer in the city by 1397[8] and that his bell-founding activities took place during the second half of the 14th century.

(There is some confusion between William de Norwyco and an almost contemporary founder by the name of William de Notyngham[9].)

1. The Old free Book (NRO., NCR., shelf 17c.) lists a number of men described as 'braziers' before 1413, when the first 'belleyetere' appears.
2. Bells bearing the name are Barford 1/2 (visited August, 1978), Thurne 1/1 (CBN., p. 224) and Little Melton 2/3 (visited December, 1978).
3. CBN., p. 143.
4. Blomefield X, 426.
5. Blomefield X, 431.
6. C&C.
7. C&C.
8. See p. 402, note 5.
9. L'Estrange (CBN., p. 25) makes the suggestion that the two men are the same, records the admission of William de Notyngham to the freedom of Norwich in 1376 and surmises that 'a few years residence in Norwich would have entitled him to call himself William de Norwyco. J. J. Raven (CBC., p. 136) goes further in his description of a bell at Conington which he describes as 'the handiwork of William de Notyngham, afterwards known as William de Norwyco'. Later discussion (p. 402, note 5.) will attempt to revise this statement.

WILLIAM DE NOTYNGHAM
1376 - 1396.

William de Notyngham was described as a brazier in his admission to the freedom of Norwich in 1376[1], and a deed dated 1417[2] conveys property which had been formerly occupied by 'William de Notyngham, formerly bell-founder and citizen of Norwich'. His will was proved in 1396[3], and the testator refers to himself as 'William de Notyngham, citizen of Norwich'. An entry in the Landgable assesment for 1397[4] refers to property which formerly belonged to William le Belleyetere[5] in the relatively open area which surrounded the castle and its ditches: this would have been a suitable site for industry such as bell-founding, where there was an ever-present danger of accidental fire[6].

ROBERT FULLER, ALSO CALLED ROBERT BRASYER
1377 - 1435.

In his admission to the freedom of Norwich in 1377[7], Robert Fuller is described as a brazier from Stoke Ferry, but numerous records of property transactions in the city court rolls and elsewhere show that he had changed his name to Robert Brasyer by 1381. Direct evidence for his career as a bell-founder appears in the Plea Roll for 1390[8], and in the admission of his son, Richard Brasyer I to the freedom of Norwich[9] in 1424/25. In his will of 1434[10], proved in 1435, he said that he had come to old age, and, since there is no reference to the bell-foundry, it would appear that he had transferred the business to his son well before his death.

1. NRO., NCR., OFB., fo 35d.
2. NRO., NCR., NED., roll 17, membrane 12.
3. NRO., NCR., NED., roll 15, membrane 27.
4. NRO., NCR., Case 17, shelf d, Norwich Domesday, fo. 36.
5. The distinction between William de Norwyco and William de Notyngham seems to be confirmed by the fact that the will of 1396 refers to William de Notyngham: if he had altered his name after a few years in Norwich, it is hardly likely that he would have used his former name in his will, or that the deed of 1417 (see note 2, above) would have used an older name. The fact that 'William le Belleyetere' was a sufficient identification suggests that William de Norwyco had been dead, or away from Norwich, for some long time in 1397.
6. C. Platt, *The English mediaeval town*, London, 1979, p.57.
7. NRO., NCR., OFB., fo 35d.
8. 1380 (NRO., DCN., deed N 54.) Robert Fuller, brazier, purchases a messuage in St. Stephen's parish.
   1381 (NRO., NED., roll 14, membrane 12) Robert Brasyer purchases a messuage in Wastelgate.
   1383 (NRO., NED., roll 14, membrane 18) Robert Fuller is mentioned in abuttals of a messuage in St. Stephen's parish.
   1385 (NRO., NED., roll 14, membrane 32) 'Robert Fullere alias le Brasyer' purchases a vacant piece of ground bounded on all sides by the highway of Wastelgate.
   There are many more such references among the enrolled deeds.
8. See p. 397, note 3.
9. NRO., NCR., OFB., fo, 46, where the entry refers to the father as a bell-founder. 10. NRO., NCC Surflete 177.

Revised p 403
with addendum
RAB

WILLIAM DE SUTTON
1391/92/93 - 1402 -

In his admission to the freedom of Norwich in 15-16 Richard II[1], William de Sutton is described as a brazier, and he is named in deeds of 1392, 1394 (when he purchases land in conjunction with Robert Brasyer) and 1399 (when he sells property to Robert Brasyer): the latest reference to him is in a deed of 1402[2]. In the deed of 1394 he is described as a bell-founder.

THOMAS POTTER
1403/04 - 1428 -

Thomas Potter is described as a brazier in his admission to the freedom of Norwich[3], and is confirmed as a bell-founder by the inscription of the tenor bell at Norwich. St. John de Sepulchre[4], which reads:

'+ Has Campanas Tu Formasti Pottere Thomas'.

He appears in a deed of 1418[5] as the joint purchaser, together with Peter Bonde and John Huberd, of a property in Wastlegate, in the Parish of St. Stephen, which can be identified through later documents as the site of the principal bell-foundry in Norwich through to the 1570's[6]. The surname Potter is of interest in the suggestion, confirmed by the will of Richard Brasyer I[7], that the Norwich bell-founders were also involved in the production of other metal artefacts, including cooking pots. Potter's trademark, which appears on the bell at Norwich St. John de Sepulchre, is a three-legged cooking pot of a type recently excavated from a site in the city and on display at the Castle Museum, Norwich[8]. The account rolls of the Gild of St. George of Norwich for the period April 1427 to April 1428 record the receipt of alms at the exequies of five members, including one Thomas Potter; suggesting a possible date for his death[9].

JOHN DE SUTTON
1403/04 -

John Sutton provides the first instance in the Old Free Book[10] where the freeman is described as 'belleyetere': the only other reference which has been traced is in the deed of 1402 which relates also to William de Sutton[11].

1. NRO., NCR., OFB., fo. 38.
2. NRO., NCR., NED., roll 15, membranes 7, 16 and 38d; also roll 16, membrane 11d.
3. NRO. NCR. OFB., fo 40d.
4. Visited, June, 1979.
5. NRO. NED., roll 17, membrane 12.
6. See below, p. 406.
7. See below, p. 404.
8. See permanent display in the Keep.
9. NRO., NCR., shelf Be, roll 5 Henry VI - 6 Henry VI.
10. NRO., NCR., OFB., fo. 40d.
11. NRO., NCR., NED., roll 16. membrane 11d.

RICHARD BAXTER
-1416 - 1457 -

Richard Baxter's name has not been found in the admissions to the freedom of Norwich, but his name has been found on bells at Fundenhall, Ketteringham and Trimingham[1]: a bequest towards work on the tower at Fundenhall in 1418[2] suggests a possible date for the work there. L'Estrange notes that Richard Baxter supplied two bells to the College of The Blessed Virgin Mary, Mettingham in 1416/17[3], and in a very badly damaged deed among the parish records of Northwold, Richard Baxter describes himself as 'brazier and citizen of Norwich' in 1423[4]. The latest reference to him has been traced in the will of Katherine Brasyer, written and proved in 1457[5], where he is bequeathed a sum of 40 shillings.

RICHARD BRASYER I
1424/25 - 1482.

Richard Brasyer was admitted to the freedom of Norwich as a goldsmith in 1424/25[6], but in a list of braziers compiled in 1450/51[7], he appears as such: he filled a number of offices in the city of Norwich during his lifetime[8], and wrote his will in 1475[9]. The will makes it clear that he owned a great deal of property in the city, including 'Brasyer's Inn' in the parish of St. Stephen and a number of tenements in Wastlegate. The disposal of the foundry is interesting in that it is left unconditionally to his son, Richard Brasyer II, with a clause requiring the tenants of the property to give an account of themselves and of the terms of their leases to Richard Brasyer II on his inheriting. The suggestion is that, although Richard Brasyer I had retained full ownership of the foundry premises and of the instruments of the craft (which he bequeathed to his son), a number of other founders were working in the premises as craftsmen in their own right, and not simply as the employees of the master-founder. The mention of pot-metal and brass pots in the will shows that the production of the foundry encompassed more than church bells, and it seems that it was organised as an atelier where a number of independent founders worked.

JOHN MAGGES
1437/40 - 1470 -

John Magges was admitted to the freedom of Norwich, as a brazier, in 16 - 18 Henry VI[10], and received a small bequest in the will of Katherine Brasyer in 1457[11]. His bell-founding activities are confirmed by entries in the churchwardens' accounts at Walberswick[12], for which church he cast three bells in the period 1466 - 1468, and the latest reference to him is in a deed of 1470[13].

1. CBN., p. 27. 2. C&C. 3. CBN., p. 27. 4. NRO., PD 373/191.
5. NRO. NCC Brosyard 58. 6. NRO., NCR., OFB., fo. 68.
7. NRO., NCR., OFB., fo. 106d. 8. CBN., p. 29.
9. NRO., NCC A Caston 122. 10. NRO., NCR., OFB., fo. 49.
11. See note 5.
12. R. W. M. Lewis, *Walberswick Churchwardens' Accounts*, 1947, pp. 73 - 75.
13. NRO., NCR., NED., roll 19, rotulet D, membrane 1.

JOHN BALY
1479 - 1488

John Baly was admitted to the freedom of Norwich in 1479[1], on the same day as Richard Brasyer II, and both were described as braziers: the only other traced reference to him, when he made a bell for East Dereham church during the accountant's period 1486 - 1488[2], confirms his bell-founding activities .

RICHARD BRASYER II
1479 - 1513

Richard Brasyer II was admitted, as a brazier, to the freedom of Norwich in 1479[3], and inherited his father's foundry in 1482[4]. He was much involved in the civic life of Norwich[5], and wrote a will in 1505 which was proved in 1513. The suggestion that Richard Brasyer II organised the bell-foundry in a similar manner to his father is borne out by entries in the East Dereham churchwardens' accounts for 1486 - 1488, where it appears that a bell was cast by John Baly, and that Richard Brasyer received the churchwardens, supplied them with wine, and dealt with the necessary agreements. Both Robert Brasyer and Richard Brasyer I had owned an inn[6], and Richard Brasyer had acquired a similar property, known as 'The White Hart' in St. Stephen's parish[7], where, presumably, he could provide accommodation and refreshment for those who had travelled to Norwich to do business with him. In his will[8], Richard Brasyer II requires his executors to retain the bell-foundry so that one of his apprentices could assume control and enable outstanding contracts to be completed. Bell-moulds and strickles are noted among the effects of the foundry, and the executors are required either to sell the bell-foundry, or to let it for a fixed rent at the end of a period of one year following his death[9].

JOHN ALEYN
c. 1513 - c. 1530

John Aleyn appears as a hosier in the admissions of freemen[10], but his connection with the Norwich bell-foundry is established through a number of deeds, and through the will of William Barker, a later bell-founder.

1. NRO., NCR., OFB., fo. 106d.
2. NRO., PD 182 D.
3. See note 1.
4. See p. 404.
5. CBN., p. 29.
6. See their wills, NRO. NCC. Surflete 177 and A Caston 122.
7. NRO., NCR., NED., roll 21, membrane 91.
8. NRO., NCC., Coppynger 81.
9. L'Estrange (CBN., p. 33) assumes that the bell-foundry closed down for the period between Richard Brasyer's death in 1513 and the arrival of William Barker in Norwich in 1530. Documents, however, suggest that the foundry continued in existence through to the troubled period following the suppression of the monasteries and beyond.
10. NRO., NCR., OFB., fo. 123.

In a deed of 1554[1], Sir John Godsalve conveys to Thomas King, Grocer, a capital messuage with tenements, rents, shops, lofts, chambers, entries, lands, buildings and gardens, known as 'le Thre Belles' in St. Stephens parish, together with a triangular site opposite. The properties are described as having been acquired directly by Thomas Godsalve (father of Sir John) from William Barker, bellfounder, previously belonging to John Aleyn and formerly the property of Richard Brasyer: there is also a reference to a quitclaim, dated 1540, in which William Barker's wife and executors renounce their interest in the properties. In his will, written in 1538[2], William Barker bequeaths his dwelling house called 'The Three Bells' to his wife, together with his 'working house' on condition that she pays all such sums as are due to John Aleyn by obligation for the said houses: the implication is that William Barker was, at the time of his death, heavily indebted to John Aleyn for the property.

It would appear likely that John Aleyn bought the bell-foundry from Richard Brasyer's executors and continued for a time to allow tenant craftsmen to work there. In deeds of 1523, 1524 and 1528[3], however, he is described as a bell-founder, thus confirming that he became more closely involved with the craft of bell-founding[4], even if he did not relinquish his interest in hosiery[5]. It appears that he continued his interest in metal-working despite the sale of the bell-foundry, and that he was entrusted with the remodelling of the pewter belonging to the Guild of St George in 1544[6]. The parish register of St. Martin at Palace church, Norwich, records the burial of one John Aleyn in 1555[7].

1. NRO., NCR., NED., roll 24, membrane 6.
2. NRO., NCC Godsalve 283.
3. NRO., NCR., NED., roll 21, membrane 53 and quoted in E. A. Tillett, *St. George Tombland, Past and Present*, Norwich, 1891, p. 17.
4. H. L. Bradfer-Lawrence, *Castle Rising - some notes on the church and castle*, Norwich, 1933, p. 53, states that 'John Aleyn the Norwich bell-founder made a treble and a tenor bell for the church of Castle Rising in 22 Henry VII' (1530/31) but gives no reference for the statement. A search among the papers in the Bradfer-Lawrence Collections (NRO.) has not revealed his sources, but it is unlikely that such a definite statement, detailing the bells cast, would be made without sufficient authority. The bells were removed from Castle Rising tower at the restoration of 1841 (*ibid.*) and the smaller went to Levens church, Cumbria: it was recast in 1846 and no record was made of the inscription (correspondence with the Levens Estate, 1980).
5. The identification of John Aleyn, bell-founder, with John Aleyn, hosier, may appear to be curious, but similar instances of the combination of different trades are not unknown. In a deed of 1533, Roger Reve of Bury St.Edmunds describes himself as a clothier and warrants a bell 'whiche the within bound Roger hath made' to continue sound for a year and a day (CBEx., p. 233.).
6. M. Grace, 'Records of the Gild of St. George in Norwich, 1389 - 1547, *Norfolk Record Society*, Norwich, 1937, p. 153.
7. NRO., PD 12/1

WILLIAM BARKER
1530 - 1538.

William Barker was admitted to the freedom of Norwich in 1530 and is described as a bell-founder[1]. It would appear that he had attempted to purchase the bell-foundry and its appurtenances from John Aleyn, but had not been able to redeem his debt[2] before his death in 1538[3].

THOMAS LAWRENCE
London, 1523 - 1537 -, Norwich 1541 - 1545.

There is little doubt that the suppression of a large number of religious houses in the late 1530's would have had a very marked effect on the craft of bell-founding: not only would a major market for the founders' products have been removed, but there would have been a considerable number of secondhand bells available for sale. Elphick[4] notes the dislocation of the trade of the London bell-founders at about this time, and the migration of many of them to the provinces. On of the migrants was Thomas Lawrence, whose activities in London have been traced as early as 1522 when, as an executor of the will, he bought the foundry and plant of William Culverden[5].

Lawrence was admitted to the freedom of Norwich, described as a bell-founder, in 1541[6], and his burial is recorded in the register of St. Stephen's church, Norwich in 1545. He is not named as an owner of the bell-foundry property in either the deed of 1554[7] or in the books of Landgable rents, where the foundry appears to be in the hands of the Godsalves[8] of whom he was probably a tenant.

AUSTEN BRACKER
- c. 1553 -

A small number of bells in churches in Norfolk and Cambridgeshire can be ascribed to Austen Bracker, whose name appears on a bell at Shouldham and whose type appears on a dated bell at Islington (1556)[9]. Identical lettering is used on bells at Long Stratton[10] and Cratfield[11], in conjunction with Norwich bell-foundry crosses and founders' marks: the Long Stratton bell was not mentioned in the 1552 Inventory for that church, but is unlikely to have been cast during Elizabeth's reign[12]. It seems that he was, for a time, working from Norwich and that he acquired his type from the foundry there. After the departure of Austen Bracker, it seems likely that there was a break in the founding tradition at Norwich since a bell of 1559 at Reepham[13] was cast in Bury St.Edmunds, from which town the Wymondham churchwardens bought a new bell between 1554 and 1556[14].

1. NRO., NED., OFB., fo. 117.
2. See p. 406, especially his will; note 2.
3. His burial is recorded in the register of St. Stephen's church, Norwich (kept at the church).
4. CBSx., p. 63. 5. *Ibid.* 6. NRO., NCR., OFB., f. 117.
7. See p. 406. 8. NRO., NCR., Shelf 18d. 9. CBN., p. 56.
10. See p. 438. 11. See p. 429.
12. It is inscribed 'Sancta Caterina' 13. CBN., p. 199.
14. Wymondham churchwardens' accounts, copy at Colman-Rye Library, Norwich.

THE ATTRIBUTION OF UNDATED BELLS TO NAMED NORWICH FOUNDERS.

The assumption that founders working from different centres were in competition may be true in some cases; but it would appear that there was positive association between the founders at Lynn and Norwich[1]. The suggestion that the Lynn founders may have acted as agents for those in Norwich would go some way towards explaining the scarcity of locally cast bells in the neighbourhood of King's Lynn, as well as the widespread incidence of Norwich-cast bells in west Norfolk. It also seems likely that Thomas Derby worked from both Norwich and Lynn at different stages in his career[2].

In all, approximately 330 surviving bells are ascribed to Norwich bell-founders[3], and previously accepted assumptions concerning the foundry have restricted attempts to classify the bells. The attribution of pre-Reformation bells to specific Norwich bell-founders presents a considerable problem since so few of the bells bear either the founder's name or a date, but a comparison between extant bells for which documents suggest possible dates and the list of Norwich bell-founders[4] enables a number of suggestions to be made[5].

From a careful analysis of the details of bells examined, it appears that the significant features for classification are the type of lettering employed in forming the inscriptions and the founders marks. The decorations, in the form of initial crosses and stops between words in the inscriptions, are also useful for separating groups of bells as are the profiles of the bells (noting especially the disposition of the moulding wires and the proportions of the bells). Most bells are inscribed in a mixture of upper-case and lower-case type, but several bells show only upper case lettering. It cannot be assumed that a particular founder would restrict himself to one particular type of lettering at any one time: at Toft Monks, for example, where the two larger bells appear be contemporary, the tenor bell is differentiated by the use of a much larger and more ornate set of upper-case and lower-case letters, and a similar observation can be made at Norwich Cathedral where there is also larger type on the tenor bell. The two larger bells at Mundham also appear to be of the same date and, while the lower-case letters are similar, the upper case letters are different.

1. See p. 397.
2. *Ibid.*
3. CPW., *passim*.
4. See pp. 399 - 406.
5. The bells examined in south-east Norfolk form too small a sample to use as a basis for the identification of Norwich bell-founders and, in an attempt to analyse the products of the pre-Reformation bell-foundry, 129 bells have been examined: this falls well short of the ideal, which would entail visiting all the bells under consideration, but the variety of bells examined, amounting to 42% of the total (CPW., *passim*), is sufficiently large to allow a number of patterns to be recognized and an interim classification to be set up.

NORWICH BELL-FOUNDERS' ALPHABETS.

The inscriptions on the bells are formed in a variety of upper-case and lower-case lettering, and examples of the types noted are listed below.

UPPER CASE TYPE

Type A	Barford (1/2)	page 411.
Type B	Salle (8/8)	page 412.
Type C	Fundenhall (5/5)	page 413.
Type D	Toft Monks (3/3)	page 414.
Type E	Earsham (1/3)	page 415.
Type F	Eaton (1/2)	page 416.
Type G	Raveningham (2/5)	page 417.
Type H	Long Stratton (0/6)	page 418.
Type I	Gillingham (2/3)	page 419.
Type J	Caistor by Norwich (1/1)	page 420.

LOWER CASE TYPE

Type a	Toft Monks (3/3)	page 414.
Type b	Fundenhall (5/5)	page 413.
Type c	Earsham (1/3)	page 415.

COMBINATIONS OF TYPE

Certain of the types listed above appear in various combinations on the same bell, and, while some inscriptions are set in upper-case alone and a very few bells have inscriptions entirely in lower-case lettering, most are in a combination of upper-case and lower-case letters. On bells examined, where the inscriptions are formed in upper case type alone, the following alphabets are employed:

A, B, F, G, H, I, J.

The only bells[1] which employ lower-case lettering alone are among the small group of 'Alphabet' bells, which, together with a few undated bells inscribed in English, appear to be relatively late castings. These bells employ lower-case type 'c' exclusively, while bells with inscriptions formed in mixed upper-case and lower-case letters employ types 'a', 'b' and 'c'.

1. The six bells examined have inscriptions which are not in Latin: all are of similar design and have the Norwich founders' mark '3.3' (see p. 422). They are: Bedingham 5/5, Colton 3/3, Fritton 2/3, Fritton 3/3, Norwich St. Lawrence 5/6 and Southburgh 1/2. The bells at Colton and Southburgh, are inscribed 'ma god amend al', and the other bells are inscribed with portions of the alphabet. For the design see p. 427, diagram 4.

The exclusive appearance of lower-case type 'c' on the apparently late[1] group of bells suggests that it replaced type 'b' and, therefore, that the 'mixed' lettering of type 'C-b' is the earliest combination. Upper-case 'E' was probably introduced during the currency of lower-case 'b' and the two sets of upper-case letters 'C' and 'E' appear to have been in simultaneous use[2]. Since no bell has been found to have upper-case 'C' with lower-case 'c', it is likely that upper-case 'C' was discarded before the introduction of lower-case 'c'.

Most inscriptions are set in a mixture of upper-case and lower-case letters in the combinations set out in the table below.

	Type B	Type C	Type D	Type E	Type H
Type a	B-a	C-a	D-a		
Type b		C-b		E-b	H-b
Type c				E-c	

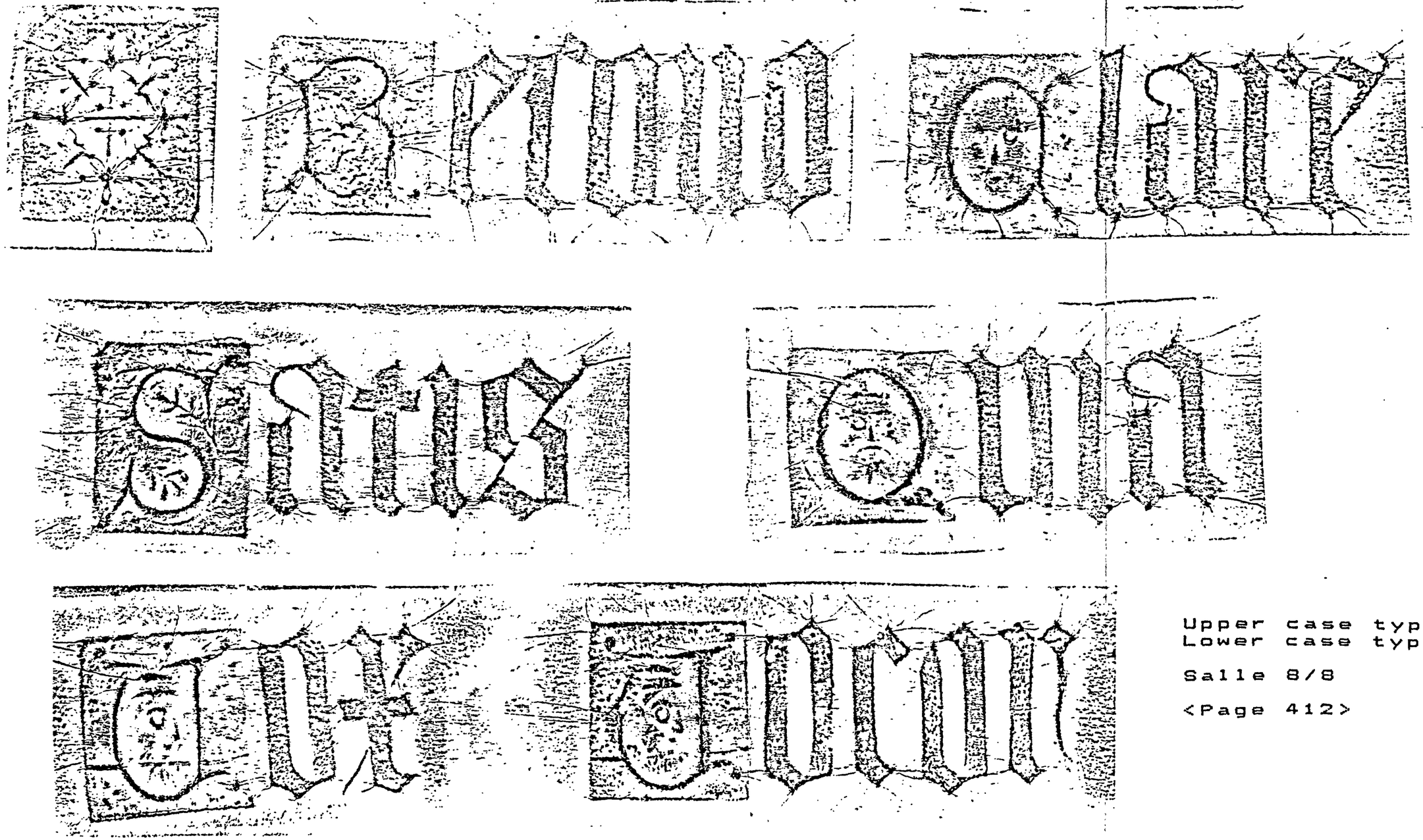
The size of the lower-case type 'a' suggests that it was designed for use with the larger upper-case types 'B' and 'D' and its appearance with type 'C' has been noted only on one bell, Norwich St John de Sepulchre 8/8. It also appears that while lower-case type 'b' is found with upper-case types 'C', 'E' and 'H', lower-case 'c' appears only with upper-case 'E'.

A number of initial crosses and stops[3] accompany the lettering with a fair degree of consistency, but these have not been used to provide a basic distinction between the work of different founders.

1. The date of the Southburgh bell seems to be fixed by a bequest in 1522 to the smaller bell of the pair (Thomas Karr, 1522, NFK., Gedney 81.), and this date is supported by bequests to bells at Colton in 1505 (specifically to the 'great bell') and 1518 (Walter Jowell, 1510, NFK., Batman 40, and William Bloker, 1518, NFK., Batman 281.). The alphabet bell at Bedingham might also be dated approximately by a bequest in 1513 (Agnes Goslinge, 1513, NFK., Sparhawke 322). The Norwich St. Lawrence 5/6 might be approximately dated by a bequest in 1536 (Richard Freman, 1523, NCC., Alblaster 209.). The second bell at Fritton has the letters 'ER' on the crown, and it is not unlikely that these refer to Edward VI. It appears that there was work on the church tower, including the construction of a new octagonal belfry, during the first quarter of the 16th century, and the bells could well have been hung after 1547 (See p. 110). It is possible that these bells were cast by an inexperienced founder (possibly John Aleyn, p. 406, or William Barker, p. 407)
2. See, for example Mundham 2/3 and 3/3, p. 272.
3. See p. 425 for illustration os crosses and stops.

Upper case type A

Barford 1/2



Upper case type B
Lower case type a

Salle 8/8

<Page 412>

Upper case type C
Lower case type b

Fundenhall 5/5
Lower case type b

<Page 413>

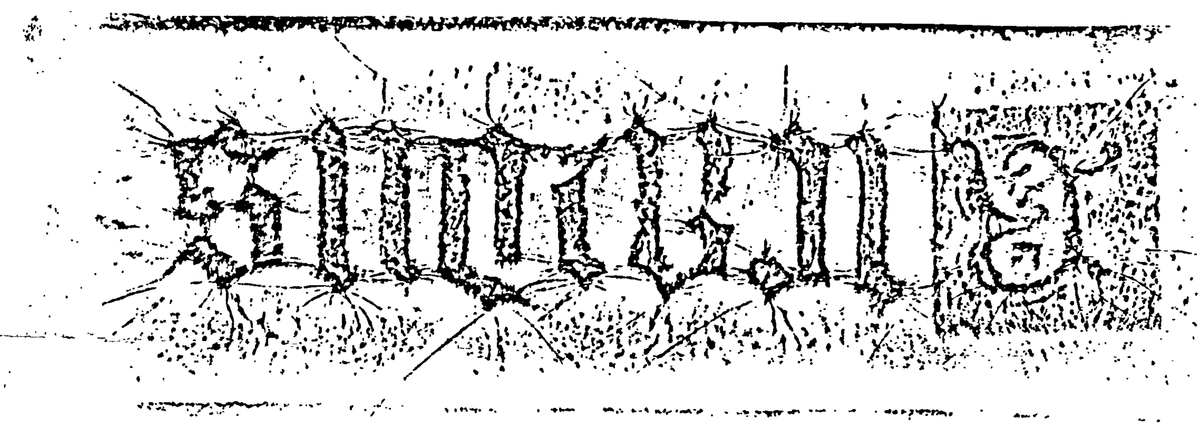
FUNDENHALL SE Nicholas 17-IV-1980

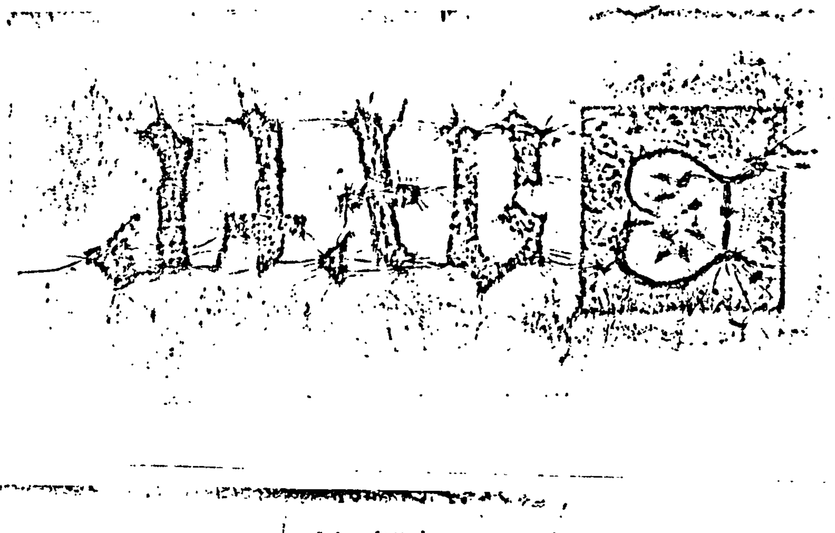
5/5

Upper case type C
Lower case type b

Fundenhall 5/5
Lower case type b

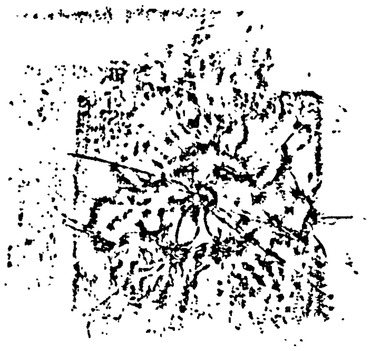
<Page 413>

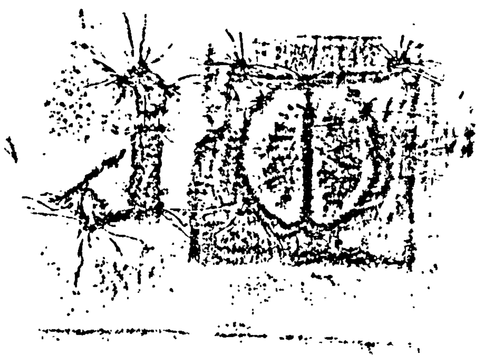


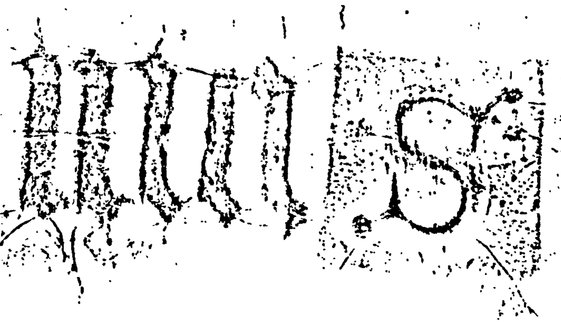


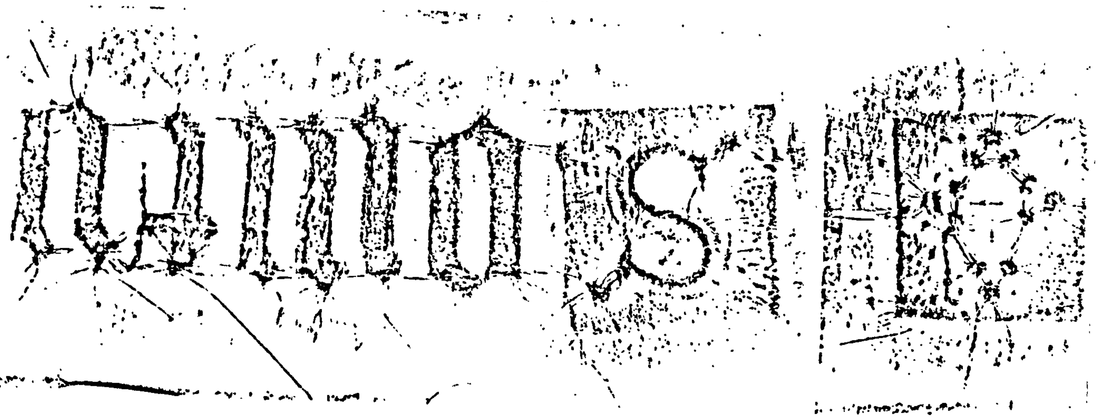
FUNDENHALL SE Nicholas 17-iv-1980

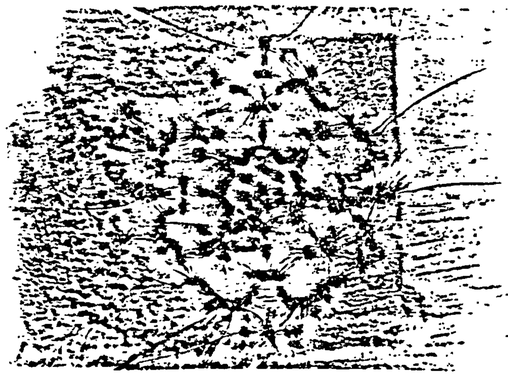
5/5

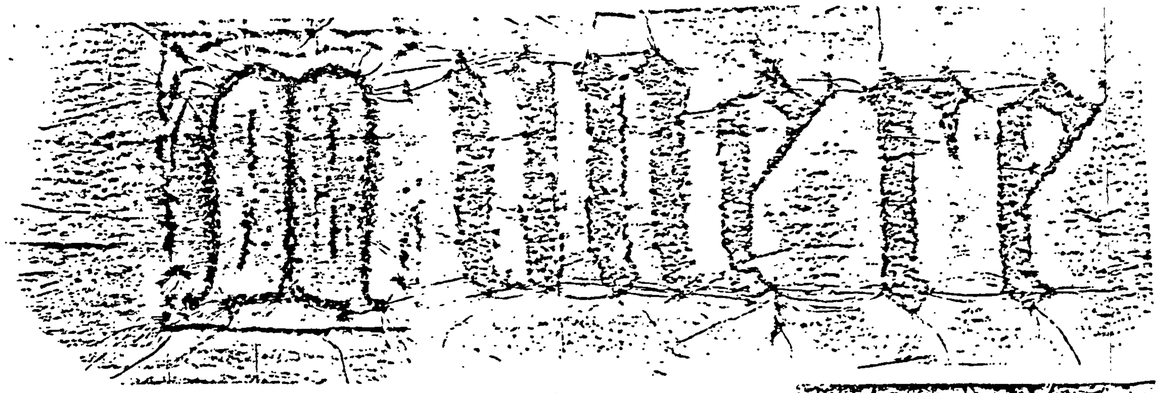


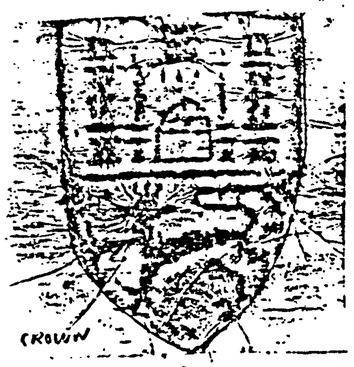


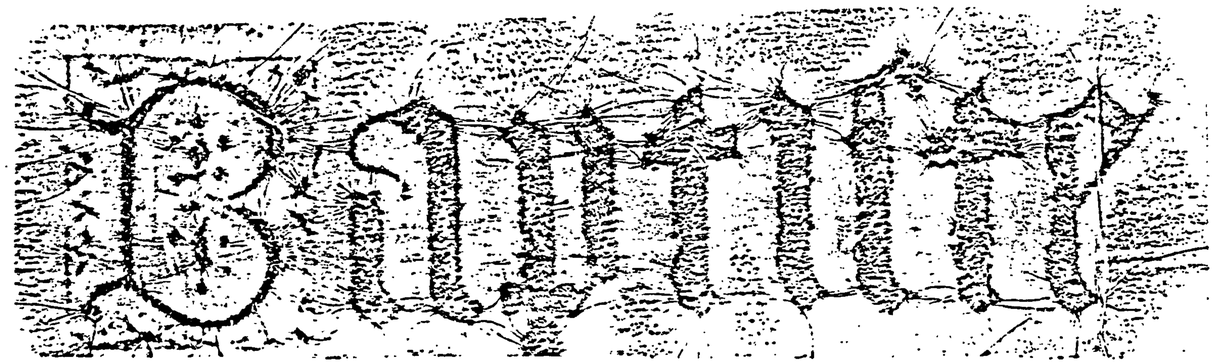


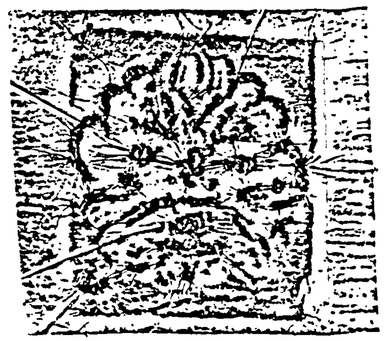


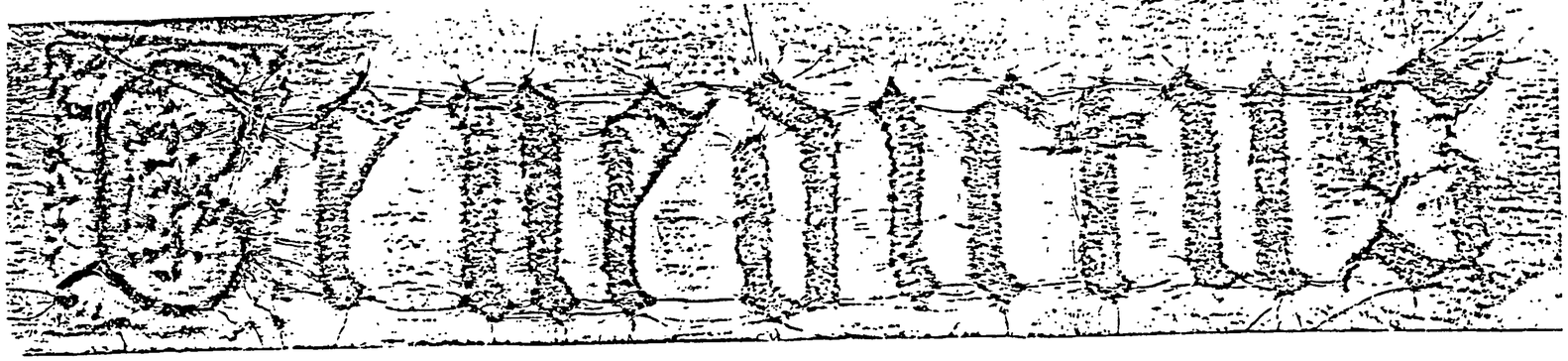


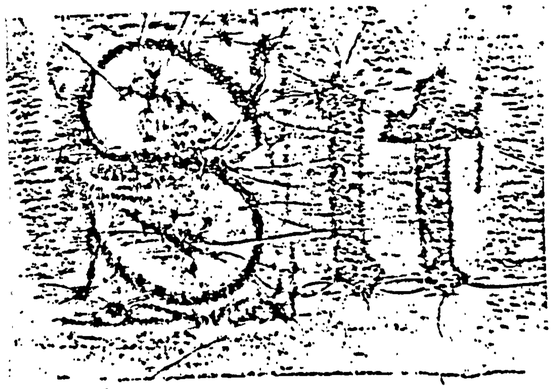


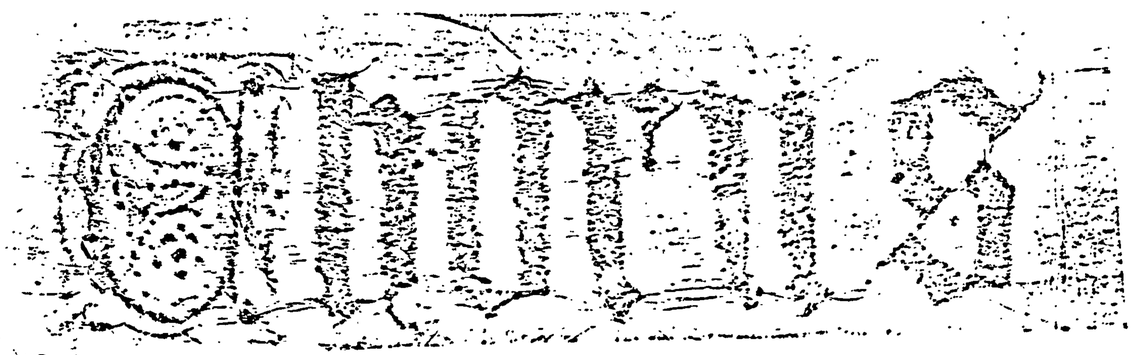


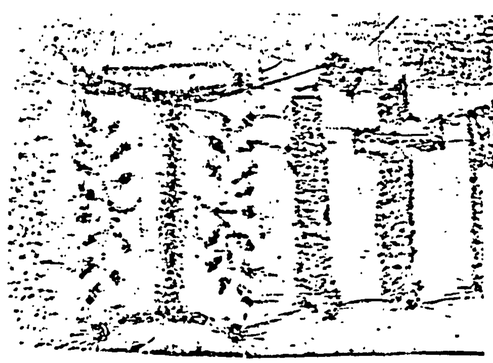










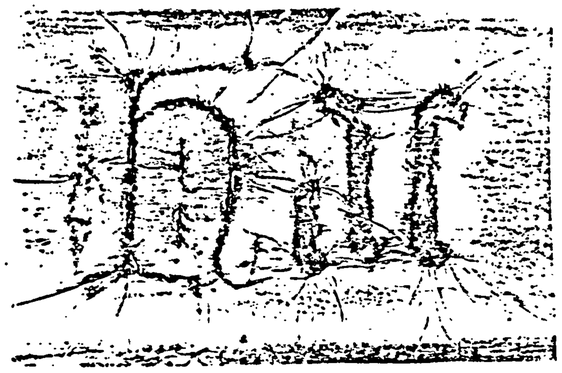


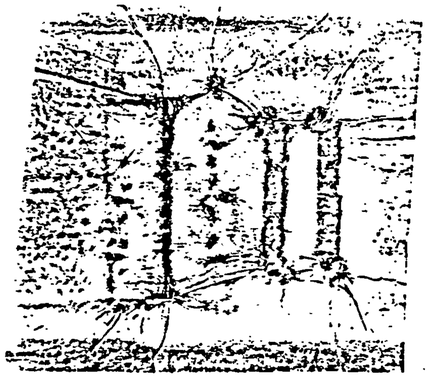
Upper case type D
Lower case type a

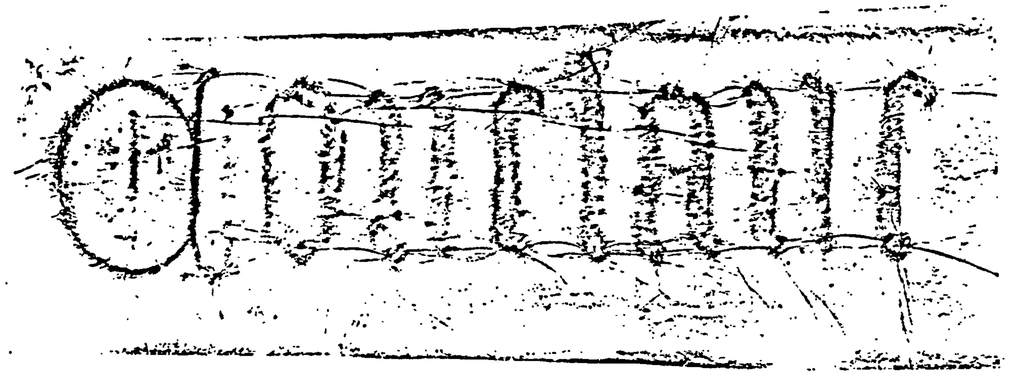
Toft Monks 3/3

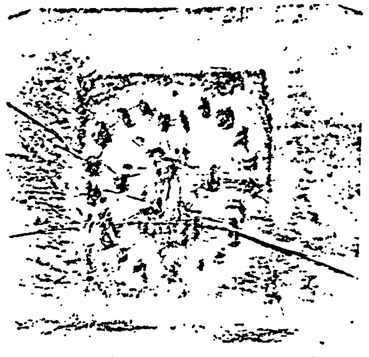
<Page 414>

Toft Monks



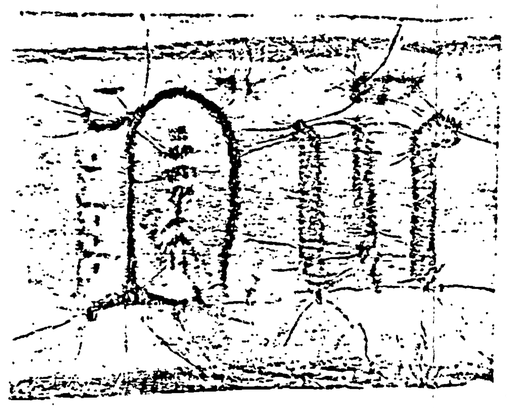


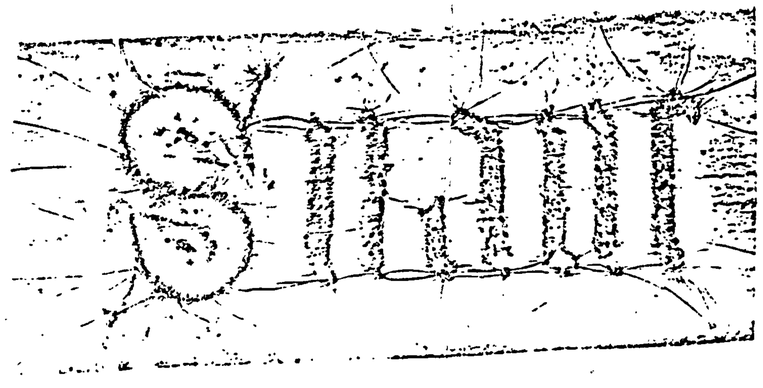


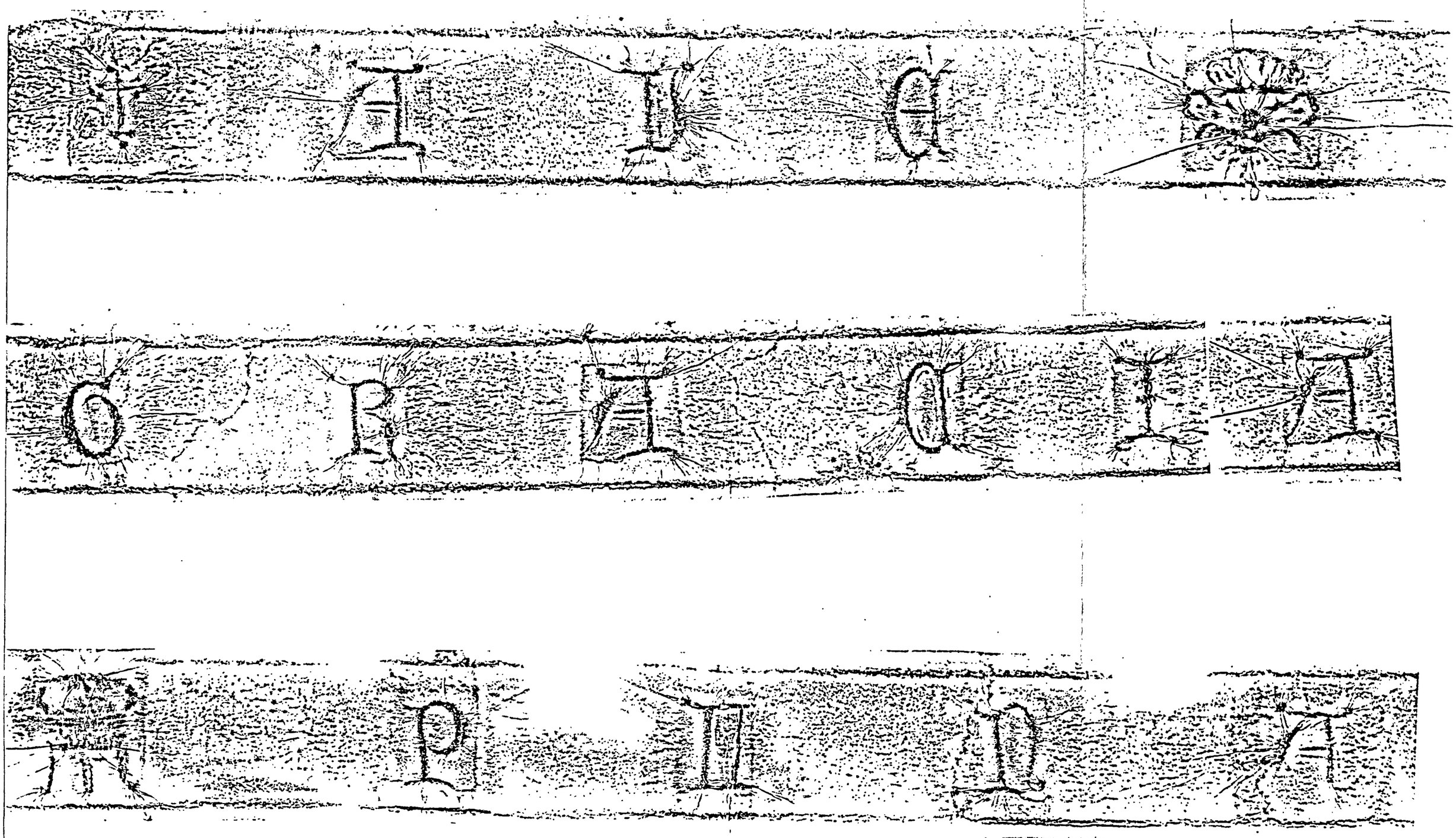


Upper case type E
Lower case type c

Earsham 1/3







Upper case type F

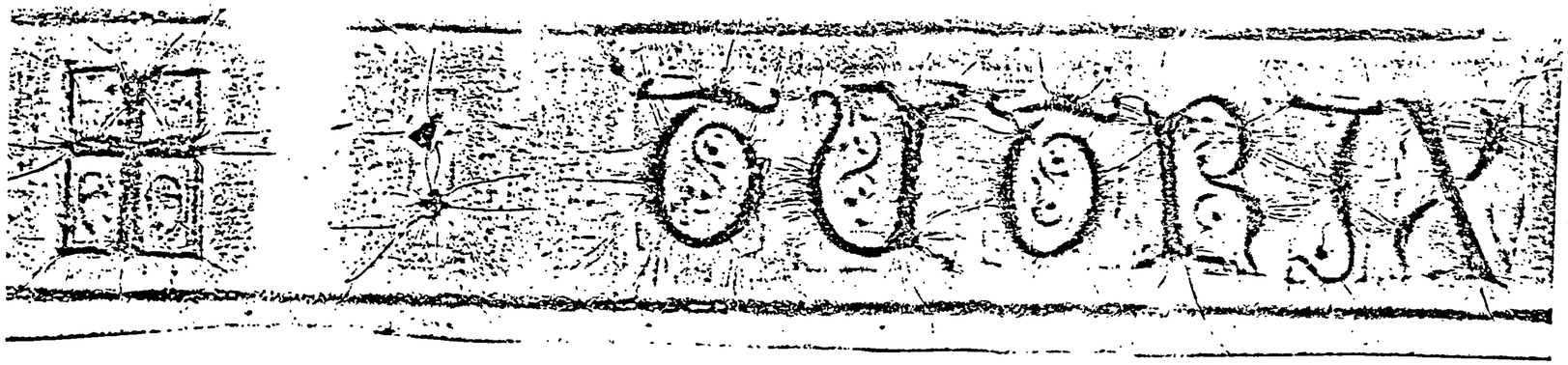
Eaton 1/2

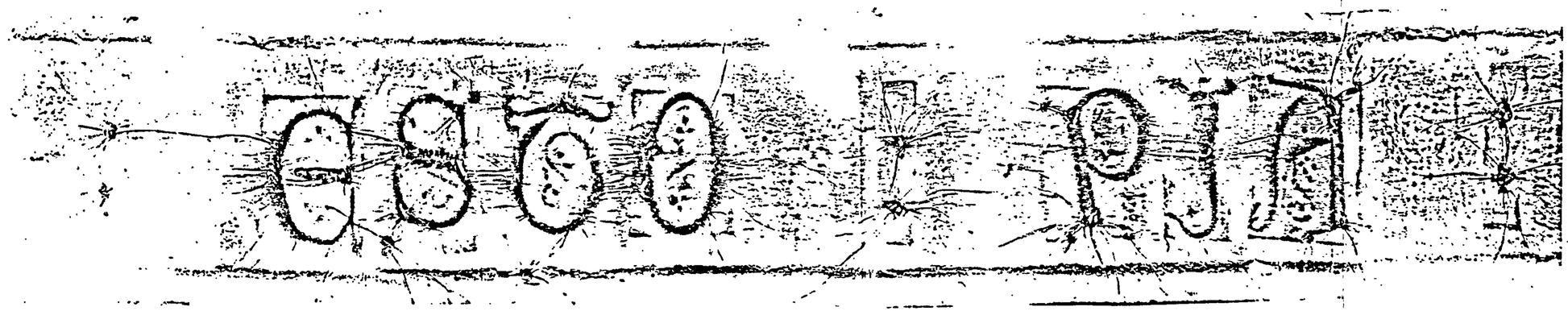
<Page 416>

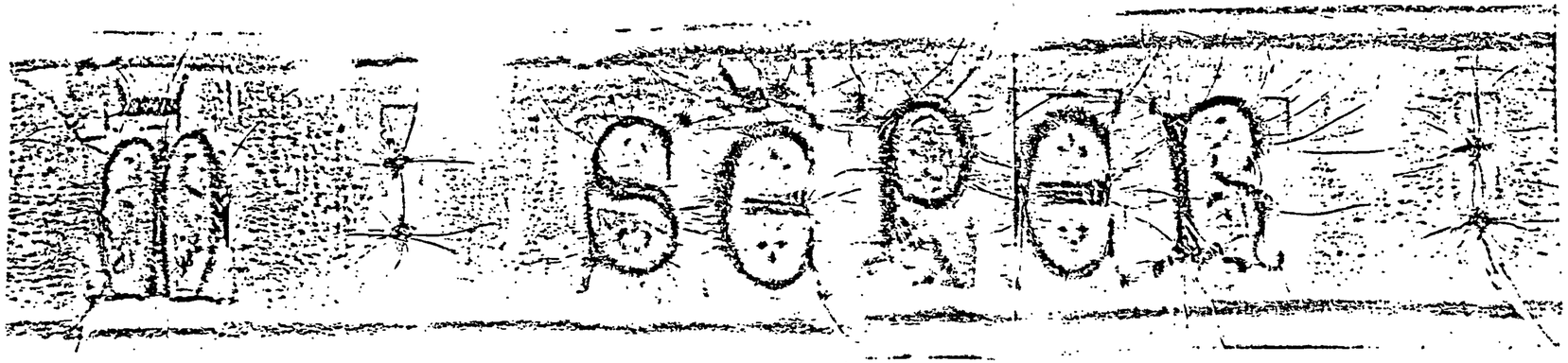
Upper case type G

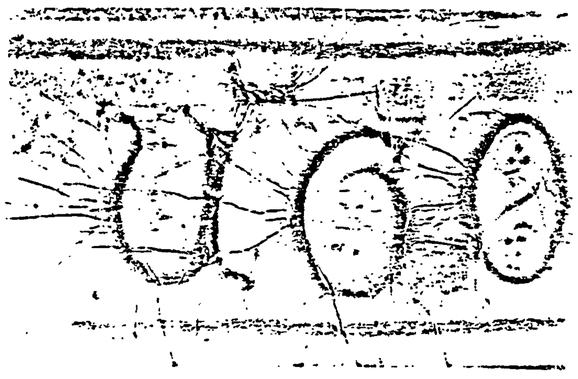
Raveningham 2/5 .

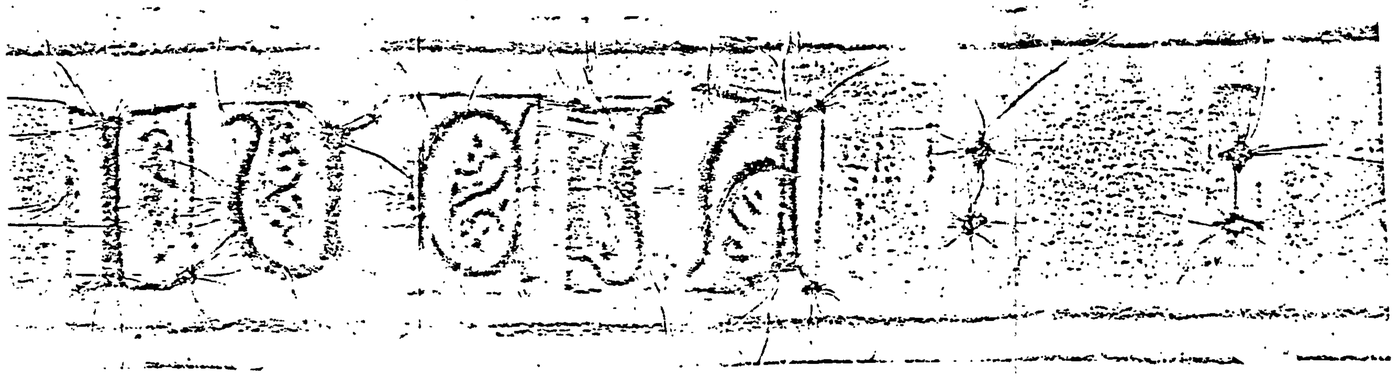
<Page 417>

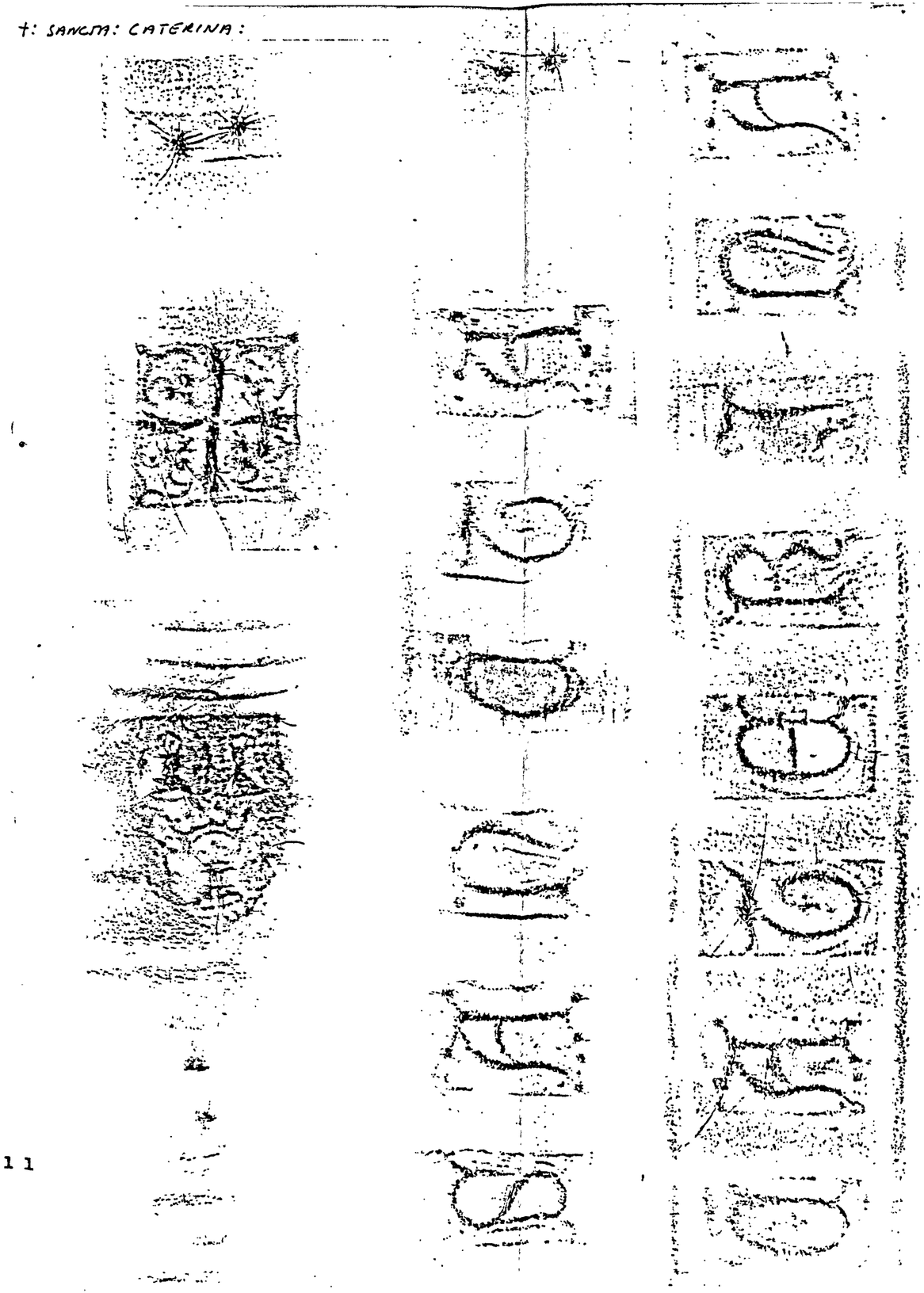










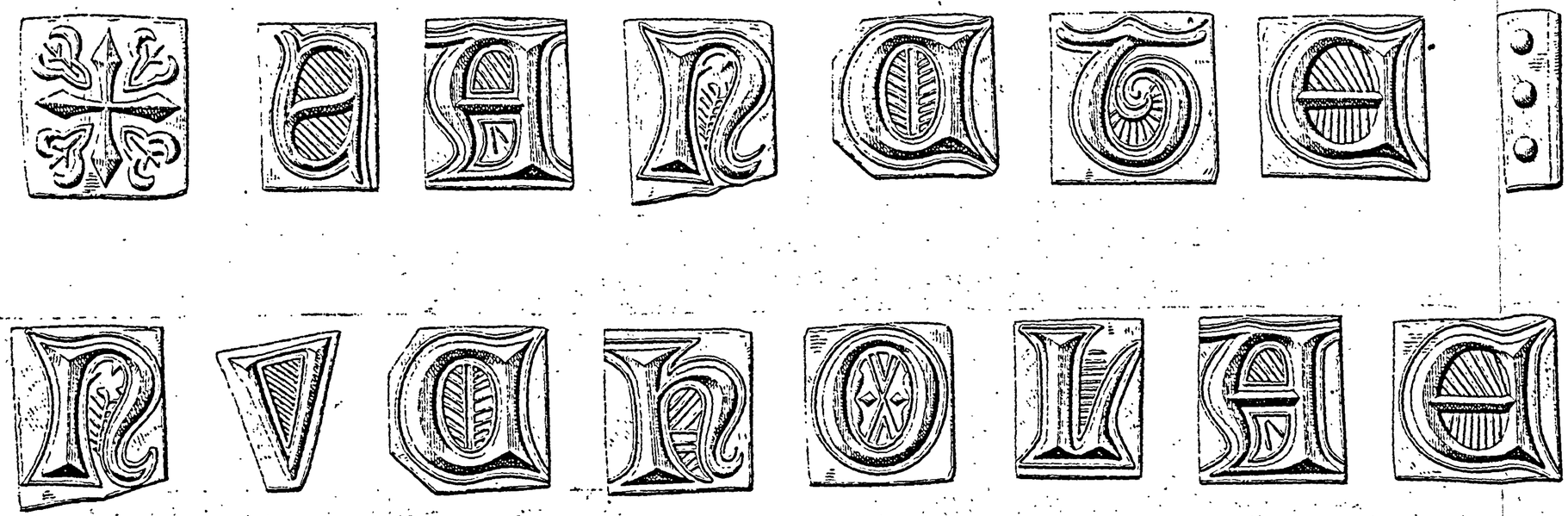


Upper case type H

Long Stratton clock bell

Upper case type I

Gillingham 2/3
and Gorleston old bell



SANCTE : NYCHOLAE : ORA : PRO : NOBIS

"Saint Nicholas pray for us."

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FOUNDERS' MARKS.

Founders' marks usually appear on the crown of a bell rather than on the inscription band, and four different types have been noted[1]: all are designed as shields, three of them charged with three bells and a coronet (but distinguished by size or ground), while the fourth is charged with three crowns and an arrow. On some bells a representation of the arms of the city of Norwich appears in combination with a bell-founder's shield[2].

Type 3.1	Large ermine shield	Toft Monks (3/3)
Type 3.2	Small ermine shield	Earsham (1/3)
Type 3.3	Large sprigged shield	Tacolnestone (0/6)
Type 3.4	Crowns and arrow	Whinburgh (2/2)
Type 3.5	Norwich city arms	Toft Monks (3/3)

INCIDENCE OF FOUNDERS' MARKS AND LETTERING.

In view of the apparently close correlation between upper-case letters, crosses and stops, an analysis of the incidence of lettering against founders' marks (as noted on a group of 97 bells, including examples from outside south-east Norfolk) is of the most value for the purposes of establishing a classification.

		LETTERING				
		C-b	D-a	E-b	E-c	G
NO MARK		5	0	0	0	21
MARK	3.1	0	2	12	2	0
MARK	3.2	17	0	11	6	0
MARK	3.3	1	0	12	5	1
MARK	3.4	0	0	0	0	2

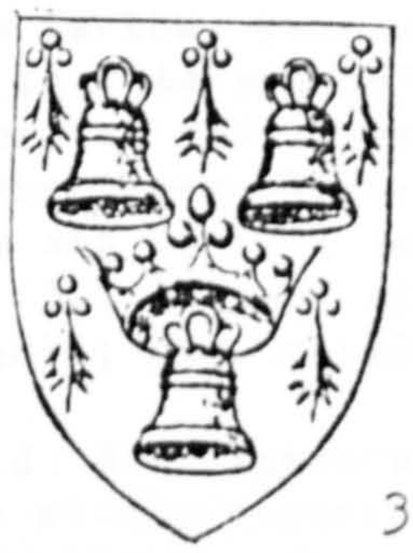
POSSIBLE ATTRIBUTION OF THE 'THREE-BELL' SHIELDS.

A record of the monumental inscriptions remaining in St. Stephen's Church, Norwich confirms the association of the shields '3.1' and '3.2' with the Brasyer family[1]. The fact that the Norwich bell-foundry was known by the sign of 'The Three Bells' during the 16th century suggests that, as well as being the personal arms of the Brasyer family, the three-bell shield was used as a house mark for the foundry[2].

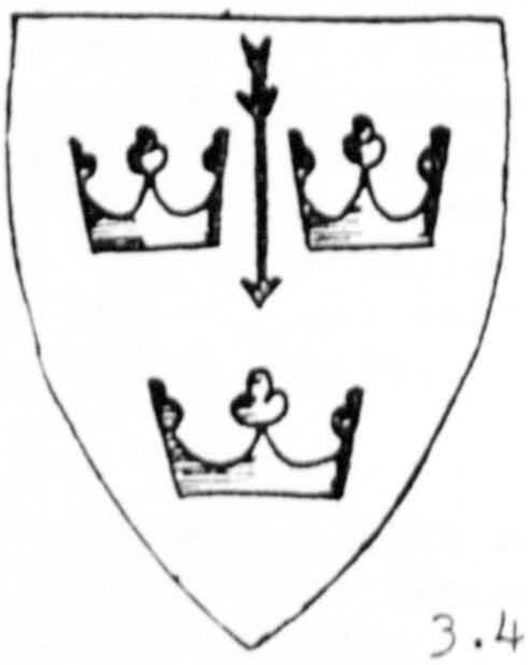
1. See p. 422. 2. See rubbing, p. 414.
3. See the will of Richard Brasyer II (NCC Coppynger 81) and compare with the details of brasses recorded in St. Stephen's church, Norwich (ms. notes by Benjamin Mackerell in the parish chest of St. Stephen's church).
4. See a deed of conveyance of the premises in 1554: NRO. NCR. NED., roll 24, membrane 6.

NORWICH BELL-FOUNDRY
FOUNDERS' MARKS

3.1

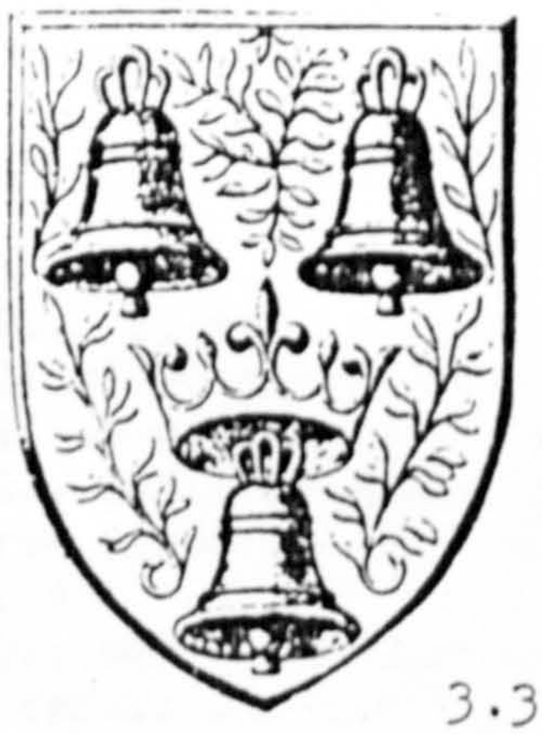


3.2



3.4

For 3.5 see p. 414



3.3

The numbers of bells bearing the different shields may give some indication of the length of time that a particular shield was in use, and an examination of those few bequests which can be related to specific bells suggests approximate periods when the different shields were current: a number of further deductions can be made by comparing the design of bells bearing the various shields. A particularly noticeable feature of the incidence of shields with lettering is that, while the shield '3.2' is found with the three types of mixed lettering 'C-b', 'E-b' and 'E-c', the shields '3.1' and '3.3' never appear with type 'C-b', nor do shields '3.1' and '3.2' appear on the apparently late group of 'Alphabet' and 'English' bells, although '3.2' is found on a bell apparently cast in c. 1555[1].

The shield '3.1' appears on the three heavier bells of the ring of five at St. Lawrence's church, Ipswich[2]; and it seems that these may be relatively positively identified with a bequest in 1449[3] to the 'new bells already bought'. A bequest for a 'larger' bell at Colney in 1469 suggests that the existing treble bell, which has the shield '3.1', was already in the tower at that date. Three of the bells at Norwich Cathedral apparently remain from the ring of five installed after the fire of 1463[4], and one of them carries a prayer for the soul of one of the obedientiaries whose funeral is recorded in a roll of 1469[5]. A further pair of bells at Toft Monks is probably related to bequests in 1464 and 1470[6]. The shield does not appear to have been used after the 1470's and has not been found on any of the later group of 'Alphabet' and 'English' bells. With the exception of bells at Carbrooke and Larling (which will be discussed later[7]), all bells with the mark '3.1' are of similar design and of excellent quality. 16 bells bearing this shield have been noted.

The shield '3.2' appears on a total of 37 bells whose possible casting dates are widely distributed through a range from the 14th century to the 16th century. The design of such bells is also far from consistent, although there are a number of well-defined subgroups.

1. See p. 131.
2. CBS., p. 207.
3. Will of Alice Greenhod, 1449. NRO. NCC Alleyn 17.
   Will of William Amy, 1467. NRO., NCC Jekkys 64.
4. NRO., DCN., Obedientiary Roll 299 (Sacrist) Michaelmas 1466. First appearance of repairs following the fire of 1463 (Blomefield IV, 4).
5. NRO., DCN., Obedientiary Roll 300 (Sacrist) Michaelmas 1469. 'In ij cereis pro exequiis Roberti Brethenham vij d.'
6. John Stroude 1464. NRO., NCC Brosyard 336.
   Richard Gaye 1470. NRO., NFK Grey 299.
7. See p. 432.

From the inscription on the service bell at Tacolnestone[1], there is no doubt that the shield '3.3' was associated with one of the Richard Brasyers. The shield '3.3' also appears on the four remaining bells of what appears to have been a complete ring of five cast for Banham church at about the time of bequests in 1470 and 1478[2]. Bells with this shield are also found in some of the towers completed towards the end of the 15th century[3]. Several of the bells bearing shield '3.3' have the apparently later lower-case type 'c', and the shield is found on all of the late group of 'Alphabet' and 'English' bells[4]. 25 bells with this shield have been noted, 15 of them of similar design and of excellent quality.

Based on the foregoing, the possible use of the three shields ascribed to the Brasyer family may now be suggested.

'3.2'.

It appears that the small ermine shield '3.2' is the earliest and that it probably appeared in the first instance on bells cast by Robert Brasyer in the period from 1377 through to the 1430's. The shield seems to have continued in use by a variety of founders through to the beginning of the 16th century and it is likely that it was considered to be the house mark of the Norwich bell-foundry, where a number of founders seem to have worked independently under the general direction of the Brasyer family[5].

'3.1'.

It seems likely that the larger ermine shield '3.1' may have been used to distinguish between bells cast under the direct supervision of Richard Brasyer I and those cast by his tenants at the foundry. The suggested dates of currency of this shield coincide with those of Richard Brasyer I, and it seems not to have been used by the Norwich bell-founders after his death in 1482.

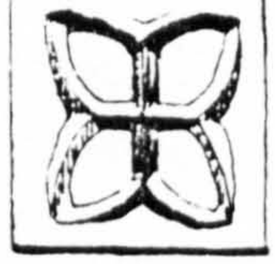
'3.3'.

From its apparent dates the shield '3.3', which seems to have been the distinguishing mark for bells cast by Richard Brasyer II, does not seem to have been used before c. 1470, but appears to have continued in use after the death of Richard Brasyer II.

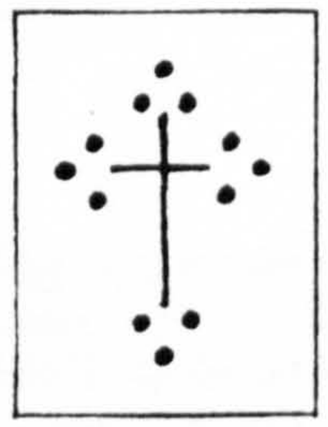
The shield '3.4' appears only on bells of type 'G' and nowhere is it found on bells with mixed lettering types. The arms certainly have connections with East Anglia[6], and it is likely that the shield was used by another of the founders working from the Brasyers' premises.

1. Removed from Norwich St. Peter Parmentergate. See p. 135.
2. Bartholomew Canne 1470. NRO., NFK Grey 290.
   William Ploughman 1478. NRO., NCC Gelour 206.
3. See p. 432. 4. See p. 409. 5. See p. 404.
6. See, for example, Blomefield I, 183.

NORWICH BELL-FOUNDRY
CROSSES AND STOPS

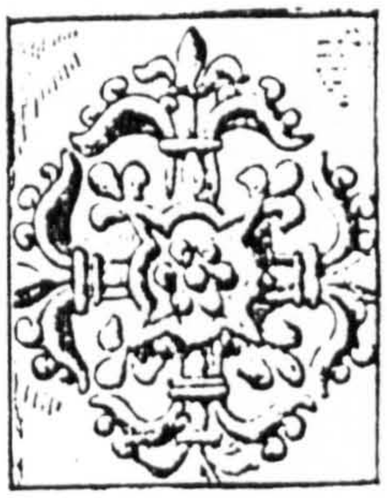


1·1

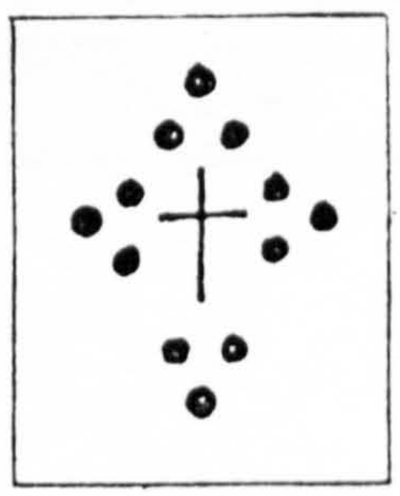


1·2

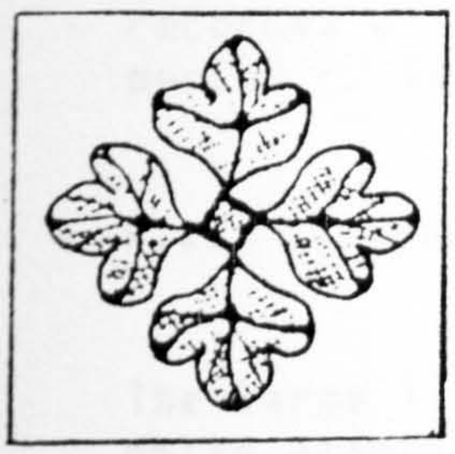
2·1



1·6



1·3



2·2

1·7

1·4

2·3

1·8

2·4

1·9

1·5

INTERIM CLASSIFICATION OF BELLS ATTRIBUTED TO NORWICH BELL-FOUNDERS c. 1220 - c. 1560.

The classification mus necessarily be described as 'interim', since not all bells attributed to Norwich founders have been seen.

UPPER-CASE LETTERING TYPE 'A'.

A total of 11 bells with inscriptions in capitals of this type have been recorded in other parts of Norfolk and in Cambridgeshire[1]. The inscribed bells are of excellent quality and are set apart from other bells examined by the design of their moulding wires[2]. The design and form of the wires on the uninscribed bells at Hellington, Thwaite St. Mary and suggests that these bells might also be by the same bell-founder[3].

The founder's name, William de Norwyco, appears on bells at Barford, and his dates are confirmed by an inscription at Hellesdon church, which commemorates the donor of one of the bells of this type as recorded by L'Estrange[4]. The suggested date for the group is in the period c. 1350 - c. 1390[5].

MIXED LETTERING TYPES 'B-a', 'C-a' and 'D-a'.

The large lower-case letters of type 'a' have been noted on only four bells examined[6]. They are well designed and are in proportion with the two upper-case alphabets 'B' and 'D'.

The use of type 'a' with the small upper-case type 'C' has been noted only at Norwich St John de Sepulchre (8/8)[7], where the founder's name, Thomas Potter, appears on the bell. Additional marks on this bell are the cross '1.3', stop '2.2' and founder's mark '2.1': the use of the latter mark, which represents a three-legged pot, seems particularly appropriate to Thomas Potter.

1. CBN., CBC., *passim*.
2. The unusual feature is the rectangular section of the moulding wires (see p. 427).
3. The Welborne bell, also examined, appears to be of the same type.
4. See p. 401.
5. The writer has examined the following four inscribed bells of this type

   Barford (1/2)
   Barford (2/2)
   Little Melton (1/3)
   Little Melton (2/3).

6. Only the Toft Monks bell is in the area under consideration, but the details of the other bells assist with the identification of the bell-founders.
7. Examined July, 1977.

MOULDING WIRES.

William de Norwyco,
Little Melton 1/3.

Usual form of wires
Dickleburgh, etc.

John Baly,
Mundham 2/3.

Alphabet bell,
Bedingham 5/5.

King's Lynn founder,
Tuddenham 1/1.

Norwich 14th century,
Gillingham 2/3.

The Salle bell is large (weighing c. 18 cwt) and is excellently cast: apart from the initial cross of type '1.5' there are no other founder's marks accompanying the mixed lettering of type 'B-a'. A bequest to the bells at Salle in 1432[1] may well suggest a date for this bell, in which case (in the absence of the founder's mark '2.1' attributed to Thomas Potter and of any of the shields '3.1', '3.2' or '3.3' attributed to the Brasyers) the bell may be the work of Richard Baxter.

The tenor bell at Norwich Cathedral, which has mixed lettering of type 'D-a', appears to have been cast as one of a new ring of five which replaced bells destroyed by a fire in 1463[2]. It was not made until c. 1469, the date of death of Robert Brethenham for whose soul prayers are asked in an inscription on the crown of the bell[3]. Two other apparently contemporary bells survive, and these are inscribed in the type 'E-b' with marks '1.2', '2.4' and '3.1'.
The Toft Monks tenor, also inscribed in mixed lettering of type 'D-a', appears to be contemporary with the second bell in the same tower, which has mixed lettering of type 'E-b' with marks '1.4', '2.4' and '3.1' with the addition of the Norwich city shield '3.5'. A bequest to work on the tower and bells suggests a date of c. 1464[4] for the bells.

The lettering on the Norwich Cathedral and Toft Monks tenor bells is accompanied by the cross '1.6' and the stop '2.5'. It would appear that the type and marks were used specially in the two cases to differentiate the tenor from the other bells in the ring.

MIXED LETTERING TYPE 'C-b'.
NO FOUNDERS' MARK.

Five bells of this type have been noticed (those in south-east Norfolk are denoted by an asterisk), two of which have inscriptions showing that they were cast by Richard Baxter. All are good castings of similar design[5] and appear to be the work of the same founder.

The bells are

Fundenhall 5/5*	(founder's name inscribed).
Ketteringham 5/6	(founder's name inscribed).
Lakenham 3/3	
Poringland 1/1*	
Shotesham All Saints 4/5*	

1. Richard Dallyng, 1432, NCC., Surflete 99.
2. See p. 423, notes 4 and 5.
3. *Ibid.*
4. See p. 74.
5. See p. 427, diagram 2.

MIXED LETTERING TYPE 'C-b'.
FOUNDERS' MARK '3.2'.

and

MIXED LETTERING TYPE 'E-b'.
FOUNDER'S MARK '3.2'.

Bells of these types form a well-defined group and, for the purposes of identification, are best discussed together: those in south-east Norfolk are denoted by an asterisk.

15 bells with lettering type 'C-b' have been noticed, all of similar design and of fair quality[1]. The particular feature of the design which sets these bells apart from others is the consistent use of depressed flat bands at the shoulder and soundbow of the bell.

The bells are

South Acre 2/3
Anmer 1/2
Brooke 4/6*
Cratfield 0/6 (Type 'H' also on crown)
Eaton 2/2
Fundenhall 3/5*
Hethel 1/1
Mundham 2/3*
Norwich St. Catherine 5/6
Norwich St. Catherine 6/6
Ormesby St. Michael 1/3
Runhall 1/3
Stoke Holy Cross 1/2*
Thurton 2/3*
Whissonsett 1/4.

Four of the bells have been moved to their present towers from other churches[2].

Fundenhall 3/5	ex Forncett St Mary 3/3
Norwich St. Catherine 5/6	ex Norwich St. Mary Coslany 5/6
Norwich St. Catherine 6/6	ex Norwich St. Mary Coslany 6/6
Whissonsett 1/4	ex Didlington 1/2

Five bells of identical design to those listed above, but employing the upper-case type 'E' with lower-case 'b' have also been noticed

Alburgh 6/8*
Barnham Broom 3/5
Hingham 5/8
Lessingham 2/3
Mundham 3/3*.

1. See p. 427, diagram 3.
2. Forncett bell transferred 1981 in the writer's presence.
   Norwich St. Mary bells transferred 1937. Letter from The Whitechapel Bell-foundry to The Rev.D. L. Cawley, 1974.
   Didlington bell transferred 1980 in the writer's presence.

At Mundham, the two larger bells, 2/3 and 3/3, are of identical design and have the unusual feature of initials scratched in the mould of the bell between the double cannons: the initial is a cursive 'B' and could well refer to a contemporary donor. The Mundham 2/3 has the initial cross '1.7', which is not usually found on Norwich-cast bells: it is known to have been used by the London founder Johanna Sturdy before c. 1465, and to have been in the hands of William Culverden of London between 1508 and 1522[1]. A bequest to the bells at Mundham in 1499 provides further support for a date during the late 15th or early 16th century[2]. There seems to be little doubt that the two bells at Mundham are contemporary, and that the two groups of bells are by the same founder.

Further support for the dating of the groups of bells is provided by bequests at South Acre (1508), Brooke (1498 and 1508), Forncett St. Mary (1507), Norwich St. Mary Coslany (1483) and Thurton (1514)[3]. The Cratfield bell is inscribed with a prayer for the soul of William Aleys, whose name appears in the churchwardens' accounts at Cratfield until 1498[4].

It seems very probable that all 20 bells listed in the two groups are by the same founder whose dates appear to be roughly contemporary with those of Richard Brasyer II. One founder who is known to have been working with Richard Brasyer II and who was admitted to the freedom of Norwich in the same year is John Baly, whose name is suggested as the author of this group of bells[5].

There remain a further 6 bells with the mixed lettering type 'E-b' and founder's mark '3.2', but whose form differs from the distinctive design of the 20 bells listed above.

Bergh Apton 6/6*
Bradwell (Suffolk) 2/3
Burlingham St Edmund 3/3
Hempstead by Stalham 3/3
Ketteringham 4/6 *
Potter Heigham 2/3

The design of these six bells is very variable, some of them, such as Bergh Apton 6/6 and Hempstead 3/3, are good castings, while Potter Heigham 2/3 is a very poor bell. It is likely that these bells are the work of contemporary but less skilled founders at the Norwich bell-foundry.

1. CBSx., pp 45,46.
2. William Wrote 1499., NRO., NCC Sayve 21.
3. South Acre John Johnson 1508. NRO. NCC Spyltimbre 81.
   Brooke Petronilla Edmonds 1498. NRO. NFK Shaw 42.
   Brooke Edmund Maine 1508. NRO. NCC Cooke 164.
   Forncett Henry Lyncolne 1507. NRO. NCC Cooke 26.
   Norwich John Havard 1483. NRO. NCC A Caston 151.
   Thurton William Denney 1514. NRO. NCC Gylys 35.
4. W. Holland. *Cratfield Parish Papers.* London, 1895. Pp 18, 19, 21, 23, 29, 109.
5. See p. 405.

MIXED LETTERING TYPE 'E-b'
FOUNDER'S MARK '3.1'

A total of 12 bells examined (those in south-east Norfolk are denoted by an asterisk) are inscribed in mixed lettering of type 'E-b' with the shield '3.1'. One of the bells, Toft Monks 2/3, also has the arms of the city of Norwich, '3.5'. The bells are of very good quality in general and of uniform design.

The bells are

Alburgh 8/8*
Bradwell (Suffolk) 1/3
Brumstead 1/1
Carbrooke 4/6
Colney 1/2
Dickleburgh 3/6*
Dickleburgh 4/6*
Dickleburgh 5/6*
Lessingham 3/3
Norwich Cathedral 2/5
Norwich Cathedral 3/5
Toft Monks 2/3.*

The dating of this group of bells has already been discussed[1] and it would appear that they are the work of Richard Brasyer I.

MIXED LETTERING TYPE 'E-b'
FOUNDER'S MARK '3.3'

A total of 14 bells examined (those in south-east Norfolk are denoted by an asterisk) are inscribed in mixed lettering of type 'E-b' with the shield '3.3'. All are of the very finest quality, including the large tenor bells at Banham, Potter Heigham and Stockton.

The bells are

Ashby St. Mary 3/3*
Banham 3/6
Banham 4/6
Banham 5/6
Banham 6/6
Brockdish 5/6*
Hackford 1/1
Kenninghall 6/8
Potter Heigham 3/3
Stockton 3/5*
Stockton 5/5*
Swardeston 4/4.
Tacolnestone 0/6

1. See p. 423.

The Kenninghall bell in not a native of that tower, having been brought from elsewhere, probably at the time of installation of a ring of eight bells in 1743[1].

The Banham bells are very probably dated by bequests in 1470 and 1478 and additional support for the suggested dating is given by bequests to bells at Ashby St Mary (1472) and Potter Heigham (1479)[2]. The towers at Hackford and Swardeston are also known to have been under construction during the last quarter of the 15th century[3].

It would appear that the group of bells might be ascribed to Richard Brasyer II[4]. The shield was probably introduced for his use before the end of his father's life, and seems to have continued in use by later Norwich bell-founders through to the middle of the 16th century.

MIXED LETTERING TYPE 'E-c'.
FOUNDER'S MARK '3.1'.

Two bells of this type have been noticed (neither of them in south-East Norfolk, but inserted to complete the classification).

Carbrooke 5/6
Larling 3/3.

The Larling bell is of good quality but not of the design normally associated with the work of Richard Brasyer II, and the Carbrooke bell is a very poor casting with a jumbled inscription. It is suggested that these bells are not the work of Richard Brasyer II, but that they were cast after his death. The Carbrooke bell may well be the work of a relatively unskilled apprentice.

1. NRO., Frere Mss., Giltcross Hundred. Note of bells in the tower made in 1712 gives full details, showing that the existing octave was made up from bells including a pair of pre-Reformation castings, neither of which was in the tower then.
2. Ashby Thomas Kees 1472. NRO. NCC Jeckys 269.
   Potter Adam Simonde 1479. NRO. NCC Awbreye 24
   Potter James Smith 1479. NRO. NCC Awbreye 24
3. C&C.
4. See p. 424.

MIXED LETTERING TYPE 'E-c'
FOUNDER'S MARK '3.2',

Five bells of this type, of varying quality and design, have been noticed (those in south-east Norfolk are denoted by an asterisk). The bells are

Burnham Overy 1/1
Costessey 3/5
Earsham 1/3*
Erpingham 4/4
Geldeston 1/1*
Houghton St Giles 1/3.

The Costessey bell was brought from another, unknown, tower when the ring of five was installed in 1800[1].

Apart from the use of lower-case lettering of type 'c', there is little to indicate possible dates for the bells apart from bequests at Geldeston in 1519 and Erpingham in 1533[2]. It would appear that the bells might have been cast after the death of Richard Brasyer II by later occupants of the bell-foundry, possibly under the direction of John Aleyn.

MIXED LETTERING TYPE 'E-c'.
FOUNDER'S MARK '3.3'.

Four bells of this type (those in south-east Norfolk are denoted by an asterisk), and of design similar to the larger groups of bells attributed to Richard Brasyer I and Richard Brasyer II, have been noted[3].

Breckles 1/1
Burnham Norton 1/1
Ormesby St. Michael 2/3
Tacolnestone 5/6*.

A bequest towards the bells at Breckles in 1498 may suggest a possible date for the group[4]. The bells are of good quality and are probably the work of Richard Brasyer II.

A single bell of this type is of very different design from the three listed above, and lacks the usual cross and stop accompanying the type 'E' capitals. The bell is

Hardley 3/3.

The stop employed is that ascribed to Thomas Lawrence, and it seems likely that the bell was cast by him during the 1540's[5].

1. CBN., p. 118.
2. Geldeston John Bonde 1519. NRO. NFK Batman 351.
   Erpingham John Freman 1533. NRO. NCH Bakon 155.
3. See p. 427, diagram 2.
4. Thomas Sayve 1498. NRO. NCC Sayve 1.
5. See p. 262.

UPPER-CASE LETTERING TYPE 'F'.

Upper-case lettering of type 'F' has been noted on the following bells (those in south-east Norfolk are denoted by an asterisk):

Besthorpe 4/5*
Eaton 1/2
Framingham Earl 1/1*
Illington 3/3
Wacton 3/3*.

The lettering is accompanied by a variety of crosses and stops, and founders marks of the type '2.1' used by Thomas Potter at Norwich St. John de Sepulchre[1] are found on the bells at Eaton, Illington and Wacton. The very distinctive form of the founder's mark suggests that the three bells are probably the work of Thomas Potter.

With the exception of the Wacton bell, the initial cross used is type '1.2', a slimmer version of '1.3', and is not found on any of the other Norwich-cast bells examined. The stop '2.5'[2] on the bells at Besthorpe and Framingham Earl appears on none of the other bells attributed to Norwich bell-founders.

The cross '1.2' and stop '2.5' are found in conjunction with lettering of type 'F' on Ampton (Suffolk) 3/4[3], a bell which can be ascribed with some certainty to the King's Lynn bell-founder Thomas Derby, who was working in Lynn from c. 1450, and it is very likely that he was also the founder of the bells at Besthorpe and Framingham Earl.

The only indication of a date for either of the bells examined is a bequest at Besthorpe in 1450[4].

The incidence of lettering and the cross on bells attributed to both Thomas Potter and Thomas Derby might imply that Derby worked initially from the Norwich bell-foundry with Potter and subsequently removed to King's Lynn[5], taking some of the letter matrices with him.

1. See p. 403.
2. The stop, which is not illustrated, is a simple square of side 5/16 inch (8 mm) and is usually set diamond-wise in the inscription.
3. See p. 397.
4. Richard Weske 1450. NRO., NCC Alleyn 52.
5. See p. 397.

UPPER CASE LETTERING TYPE 'G'.

A total of 24 bells examined (those in south-east Norfolk are denoted by an asterisk) are inscribed in upper-case letters of type 'G', two have the founder's mark '3.4' and one has the mark '3.3'. With the single exception of Whinburgh 2/2, the bells are of the same uniform design as the majority of the 15th century Norwich-cast bells[1]. The casting quality is generally very good (a notable exception being Pulham St. Mary 6/8). The bells are

Athelington, Suffolk 1/3
Athelington, Suffolk 2/3
Athelington, Suffolk 3/3
Barnham Broom 4/5
Burlingham St. Andrew 1/3
Burlingham St. Andrew 2/3
Burlingham St. Andrew 3/3
Colney 2/2
Cranworth 1/3
Denton 2/3*
Denton 3/3*
Eccles 2/3
Eccles 3/3
Great Melton 3/3
Newton by Castleacre 1/1
Pulham St Mary 6/8*
Quidenham 5/8
Quidenham 6/8
Raveningham 2/5*
Shotesham All Saints 3/5*
Tharston 4/5*
Thorpe next Haddiscoe 2/2*
Tivetshall St Margaret 1/1*
Whinburgh 2/2.

The shield '3.3' appears at Newton by Castleacre[2], and the shield '3.4' at Pulham St Mary and Whinburgh.

1. For profile see p. 427, diagram 2. It is felt that a rather fuller discussion of this group of bells is worthwhile in view of recent acceptance of a date in the 16th century (CBS2., p. 19 and CPW., *passim*) in contradiction to that suggested by L'Estrange (CBN., p. 81) and here supported.
2. Visited November, 1978.

The variety of the inscriptions is remarkable. Some of the bells bear 'stock' inscriptions, common to many of the bells attributed to the Brasyers, but notable exceptions occur on Burlingham St Andrew 3/3

A TEMPESTATE PROTEGAS NOS PETRE BEATE

on Denton 2/3 and 3/3

O MATHEE ME ADIUVA MENTEM ABIMIS SULLEVA

EDMUNDE REX SANCTISSIME FAC TECUM SEMPER VIVERE

on Raveningham 2/5

TUTRIX ESTO PIA MARIA SEMPER VIRGO LUCIA

on Thorpe next Haddiscoe 2/2

ORA MENTE PIA PRO NOBIS VIRGO MARIA.

The bells form part of a group referred to by both L'Estrange and Raven as the 'Burlingham' group[1].

The type 'G' upper-case letters appear with the shield '3.4' on a small group of bells in the area immediately around Canterbury, and J. C. L. Stahlschmidt has no hesitation in attributing them to a founder called William le Belleyetere, whose name he found in a Canterbury document dated 1325[2]. Whether the letters migrated from Canterbury to Norwich is a matter for supposition, but the evidence from both documents and design points to a much later date for the East-Anglian bells of this type.

The dating of the group has most recently been published as 16th century[3], and the evidence for this seems to be drawn from the bell at Weasenham St. Peter which is of type 'G'. A bequest in 1534 refers to the purchase of a new 'second' bell, and a Faculty in 1816 allows the disposal of the largest and smallest of the ring of three bells, thus confirming that the surviving bell is the former second bell in a ring of three. The date of the will, however, is very close to that of the suppression of a large number of religious houses in Norfolk, and there is a very strong probability that secondhand bells from the towers of former monastic churches were readily available.

Direct evidence for dating the bells is afforded at Colney by a bequest to the larger bell of the pair in 1467[4]: two pre-Reformation bells are recorded in 1552 and remain in the tower, the larger is of type 'G'. At Denton, where two type 'G' bells survive, the churchwardens' accounts for the period 1506 to 1539 remain: there is no mention of work on the bells other than regular maintenance[5].

1. CBN., p.80. CBS., p. 60.
2. CBK., pp. 12,13.
3. CBS. 2., p. 19.
4. William Amy 1467. NRO., NCC Jekkys 64.
5. PD 136/56.

Supporting evidence may be drawn from three towers where there were bequests to the addition, or recasting, of the tenor bell, and where other bells in the ring are of type 'G'. At Quidenham, where three bells were recorded in 1552, there was a bequest to the recasting of the tenor in 1494; the bell was apparently again recast in 1677 leaving the two smaller type 'G' bells: it could be the case that the two smaller bells are the survivors of a ring of three installed before 1494. At Tharston there were bequests to a new tenor bell in 1505, and it would again be consistent to assume that the existing 4/5 is an older bell than the pre-Reformation bell recorded by L'Estrange and recast in 1907. Similarly at Tivetshall St. Mary, where there was a ring of five until 1974, a bequest to a new tenor bell was made in 1498, implying that the existing bell (formerly 4/5) is earlier[1].

It also seems reasonable to assume that the construction of a new church tower might have been followed by the installation of a ring of bells. The Athelington bells have every appearance of having been designed to fit the small tower whose building was under consideration in c. 1460[2], and the Burlingham bells hang in a tower which was roofed in c.1479 and to which battlements were added in c. 1485[3]. The two larger of four pre-Reformation bells (in a ring of five) in the tower of Norwich St. George Tombland are of type 'G', and the building of the new tower in c. 1445 may have provided the occasion for increasing the weight and number of the ring[4].

The sum of the direct and indirect evidence points to a date during the second half of the 15th century for the bells, and their design suggests a founder who had links with the Brasyers (as does the appearance of the shield '3.4' on the bells at Newton by Castleacre). The individual quality of the inscriptions suggests a certain degree of independence, however, as of a tenant founder working independently from the Norwich bell-foundry. The dates indicated for the type 'G' bells agree fairly well with those of John Magges (1437 to at least 1470)[5], who was considered a sufficiently competent founder to supply bells for the newly completed tower at Walberswick in 1466 and 1468[6].

1. Quidenham William Erle 1494. NRO. NCC Typpes 86.
   Tivetshall William Nycoll 1498. NRO. NFK Shaw 46.
   Tharston William Brett 1505. NRO. NCC Ryxe 276.
   Tharston William Cooke 1505. NRO. NCC Ryxe 298.
2. Robert Codlynge 1460. NRO. NCC Betyns 5.
3. C&C. 4. C&C.
5. See p. 404.
6. R. W. M. Lewis. *Walberswick Churchwardens' Accounts 1450-1499.* 1947. See accounts for 1466 and 1468.

UPPER-CASE TYPE 'H'.

Although it has been found in combination with other lettering[1], upper case type 'H' has been noted alone on a single bell.

Long Stratton clock bell.

The bell has also the founder's shield '3.2' and the initial cross '1.9'. From an examination of the 1552 Inventory for Long Stratton church, it seems very likely that the bell was cast in c. 1553[2]. Comparison with similar lettering on bells at Islington and Shouldham confirms that the most likely founder of the bell is Austen Bracker[3]. It would appear from its design that the type 'H' was used by the Norwich founders for smaller bells[4], of which few survive, and that Austen Bracker acquired it, as well as the initial cross '1.9' (which appears on a Norwich-cast bell in c. 1467[5]), during a stay in Norwich before moving away to cast bells for churches in the west of the county and in Cambridgeshire[6].

UPPER-CASE TYPE 'I' AND 'J'.

For the purposes of comparison with apparently contemporary bells attributed to a Norwich bell-founder, a number of 14th century bells cast at London and King's Lynn have been examined. The second bell of the ring of six at Garboldisham was replaced by a new bell in 1883, and the crown and cannons of the old bell were preserved at the church[7]. The inscription is in two parts; on an inscription band in the usual place

'VVILELMVS : SCHEP : MEFECIT'

and on the crown, above the inscription band

'AD LAVDEM SANCTI ANTONI'.

Documentary evidence for William Schep has been found in the years 1347 - 1349[8] and the Garboldisham bell was, until 1969, thought to be the only remaining bell by this founder: another bell by Schep was discovered at Leckhampstead, Berkshire in that year[9]. A bell on the church floor at Bridgham, formerly at Roudham, is inscribed

'WILELMVS REVEL ME FECIT'

and there is evidence for Revel in documents of 1357[10]. A bell by Revel also remains in the tower of St Lawrence's church, Norwich, to which access is difficult. An illustration in L'Estrange's *Church*

1. See p. 429. 2. See p. 132. 3. See p. 407.
4. See the Cratfield clock bell, p. 429, for example.
5. At Colney, see p. 436, note 4.
6. CBEx., pp. 82, 83.
7. CBN., p. 121, and Candler Mss. at Garsett House, Norwich.
8. CBE., p. 186.
9. F. Sharpe. *The Church Bells of Berkshire.* Bath, 1970, p. 353.
10. CBN., p. 202. CBE., p. 186. Visited August 1978.

Bells of Norfolk[1] shows that the bell has inscriptions in similar places to those on the Garboldisham bell and that the moulding wires are of a similar pattern to those on the Bridgham bell. The measurements taken from the Bridgham bell give the ratio of height to radius as 1.58 : 1, and those for the St Lawrence, Norwich bell give 1:56 : 1[2].

A bell at Salle (5/8) is inscribed

+ EDMVNDVS : DE LENNE ME FECIT

and the founder's name has been noted in records between 1344/45 and 1353[3]. Two bells of similar design to the Salle bell are at North Tuddenham[4], inscribed

+ THOMAS : ME : FECIT

and at Long Stratton (4/6), inscribed

+ IESV : ENLEHON : DE : TOI : SIRE : ION : STVRMIN : FIT : FERE : MOI
THOMAS : MADE : ME

The moulding wires on the bells, all three of which have cannons of the same unusual design, are similar[5], and the proportions of the Salle and Tuddenham bells are identical with a ratio of height to radius of 1.42 : 1 The Stratton bell has been tuned by chipping away the lip and thus making it impossible to record exactly the original dimensions.

The common feature of the bells examined, which sets them apart from most other pre-Reformation bells examined, is the form of the moulding wire at the soundbow: it is a single pronounced bevel instead of the more usual set of three wires[6]. The form of the moulding wires on the crowns of the London and Lynn bells includes the unusual feature of a flat band between a pair of half-rounds[7]. In all cases the bells are inscribed only in upper case lettering, and an unusual feature of the Revel bells is the position of the inscription on the crown.

1. CBN., plate opposite p. 178. An ascent to the bell has since been made, confirming that it is as illustrated.
2. Bridgham visited August 1978.
   Norwich St. Lawrence visited March 1984.
3. See p. 396.
4. Visited April 1979.
5. See p. 427, diagram 5.
6. *Ibid.*
7. *Ibid.*

Six inscribed bells examined in Norfolk have a number of features in common which relate them to the 14th century bells described above. Their inscriptions are entirely in upper case letters and two sets of similar type in different sizes have been noted. That both sets were in the hands of a single bell-founder is confirmed by the inscription in two sizes of lettering on a bell which was formerly at Gorleston and of which a drawing remains in the Kimber Collection[1].

The position of the inscriptions on the crowns of the bells at Lessingham and Rockland All Saints is paralleled by that on the bells at Garboldisham and Norwich St. Lawrence, and the use of a single pronounced bevel as a moulding wire at the soundbow on all six bells is similar to that on the 14th century bells from London and Lynn[2].

The ratio of height to radius for the six bells, which are generally taller than the 14th century Lynn bells but less tall than the Schep bell at Bridgham, averages 1.45 : 1 which is significantly above that for 15th and 16th century bells[3]. Two uninscribed bells, Kirby Bedon (2/3) and Wramplingham (1/3), have similar profiles to the six inscribed bells and are of similar proportions; and it would appear that all eight bells are roughly contemporary and represent the work of a 14th century bell-founder. Two similar bells are reported to be at Ellough, Suffolk (1/3) and St. James South Elmham, Suffolk (3/4)[4].

The distribution of the group of bells across a wide region of Norfolk and North Suffolk has suggested[5] that they are the work of an itinerant bell-founder, but the consistency of design, and the relatively high quality of casting of some of them, makes it much more likely that they are the survivors of a larger group of bells cast by a well-established founder. Previous writers have assumed that there were no bell-founders in Norwich until the late 14th century[6], and this may have led them to suggest an itinerant founder rather than to make the more obvious suggestion that the bells originated from Norwich, the geographical centre of their distribution.

The bells in south-east Norfolk which are ascribed to 13th-century or 14th-century Norwich bell-founders are:

Gillingham 2/3
Caistor by Norwich 1/1
Kirby Bedon 1/1
Mundham 1/3

1. At the Whitechapel Bell-foundry.2. See p. 427, diagram 6.
3. Compare for example Barford 1/2 1.33 : 1, Barford 2/2 1.34 : 1, Bedingham 5/5 1.39 : 1, Brooke 4/6 1.36 : 1, Fundenhall 5/5 1.41 : 1.
4. CBS2., p. 31.
5. CPW., passim.
6. Relying on CBN., p. 25.

UNDATED BELLS BY LONDON AND BURY ST. EDMUNDS FOUNDERS.

The pre-Reformation bell-foundries at London and at Bury St Edmunds have both been well-researched[1], and bells from these foundries are found in south-east Norfolk.

Bells attributed to London founders are found at Ditchingham and Surlingham: the Ditchingham bells appear to be the work of John Langhorne (c. 1379 - 1406)[2], while the Surlingham bells appear to be by William Dawe[3] (4/4) and an unknown predecessor[4] (3/4). The great strength of the local 14th-century and 15th-century foundries accounts for the scarcity of London-cast bells in the area, and it is possible that the Ditchingham bells might have come there when the old bells were 'exchanged' with a London founder in 1739[5]. There is, however, one local record of the purchase of a bell for Shropham church from Robert Burford of London in 1410[6].

The Bury St. Edmunds founders supplied five bells to churches in south-east Norfolk during the 15th and 16th centuries, including the heaviest pre-Reformation bell in the county, probably cast by Thomas Chirche, at Redenhall (8/8)[7]. A bequest in 1504 suggests that Needham 2/3 may also be by Thomas Chirche, while Bressingham 1/5 (bequest 1480) and Wacton 2/3 (bequest 1485) are likely to be the work of Reginald Chirche, as is Brockdish 4/6[8].

LATER UNINSCRIBED BELLS.

A few uninscribed bells have cannons and moulding wires which suggest that they were cast by Edward Tooke or Samuel Gilpin of Norwich[9]. Two small bells, hanging in inaccessible bell-cotes on the gable walls between the naves and chancels at Shotesham All Saints and Shotesham St Mary, have not been closely approached, but examination through field-glasses suggests that they are uninscribed[10], and no feature which implies great age has been noticed. A similar small, uninscribed, bell hangs in the tower at Framingham Earl.

1. A recent publication dealing in some detail with the London bell-founders is G. P. Elphick, *Sussex Bells and Belfries*, London 1970 (see pp. 116 - 163), and the Bury St. Edmunds founders have been recently published in R. W. M. Clouston and G. J. W. Pipe, *Bells and Bellringing in Suffolk*, Suffolk Historic Churches Trust, 1980.
2. See CBE., plate X for similar lettering, shields and crosses on bells ascribed to Langhorne.
3. CPW. 4. *Ibid.*
5. See p. 261.
6. Blomefield I, 455.
7. See p. 205 and CBS. 2.
8. See pp. 155, 162, 191 and 197.
9. See pp. 256, 275, for example.
10. G. Gunn (Editor), *Shotesham, brief account of a Tas Valley Village*, Shotesham, 1976, states (p. 11) that ' the "sanctus" or "sacring" bell was brought from a convent at Sebastopol in 1899 to replace the ancient bell lost at the Reformation'.

DATED BELLS AND OTHERS ASCRIBED TO FOUNDERS AFTER C. 1560.

Most of the bells cast between c. 1560 and 1756 originated with the Norwich bell-founders, whose history is recorded by L'Estrange in his *Church Bells of Norfolk*. Much analysis of the post-Reformation foundries in London and elsewhere has been published[1], but a number of local founders have received less attention. In the following section printed sources have been accepted for the major foundries at London, Loughborough and Downham Market and for the more modern foundries at Ipswich and Harleston, but more detailed research on the local founders is presented.

LOCAL BELL-FOUNDERS

BELLS CAST AT BECCLES.
Henry Topsel, - 1585 -

Henry Tapsel, or Topsel, seems to have started his career as a bell-founder in Sussex by 1577, when he cast bells for West Tarring church[2], and to have moved to Beccles by 1585, when he is described in a Marriage Licence as 'Henry Tapsell of Beccles, Bell-founder' who married Elizabeth Andrews of the same place on 8 November 1586[3]. The churchwardens' accounts at Cratfield, Suffolk, show that he cast a bell for them at Beccles in 1585[4]. Of two bells which can be ascribed to him during his time in Beccles, one in south-east Norfolk at Kirby Bedon, came there from Hedenham, probably when the new ring of six was installed in 1838. A peculiarity of his work is that he inscribed the name of the parish on each of the two bells noted, a most unusual practice.

1585 KIRBY BEDON 1/3.

BELLS CAST AT EAST DEREHAM.
Joseph Mallows, - 1750 - 1760 -

Little can be gathered from the East Dereham parish records[5] concerning Joseph Mallows whose earliest bells, dated 1750, hang at Dersingham[6]. He was not a prolific founder and his two major works, a ring of five for Beetley (1752) and an octave for North Elmham (1757), have been recently destroyed[7]. His most important surviving work is found at Brooke, for which church he cast four bells in 1758 to complete a ring of six[8]. His latest bells are the two trebles at Upwell[9].

1758 BROOKE 1/6
1758 BROOKE 3/6
1758 BROOKE 5/6
1758 BROOKE 6/6

1. See, for example, CBH., CBSx., etc.
2. G. P. Elphick, *Sussex Bells and Belfries*,, London and Chichester, 1970, p. 87.
3. NRO., Norwich Consistory Court Marriage Licences 1586.
4. W. Holland, *Cratfield Parish Papers*, London, 1895, p. 110.
5. Consulted at NRO. 6. CBN., p. 124.
7. CBN., pp. 100 and 129. 8. See p. 48. 9. CBN., p. 229.

BELLS CAST AT DOWNHAM MARKET
Thomas Osborn, 1779 - 1806,
William Dobson, 1806 - 1832.

The history of the foundry at Downham Market is outlined in a number of places[1], and many bells were produced there. They include a fine ring of ten for St. James' Church, Bury St. Edmunds and a heavy octave for Woodbridge, cast by Osborn[2]; and the ring of twelve at St Nicholas' Church, Liverpool, cast by Dobson[3]. In south-east Norfolk, the rings of bells at Tibenham and Diss are noted for their excellence of tone. A list of Downham Market[4] bells in south-east Norfolk follows

Bells by Thomas Osborn

1787	TIBENHAM 2/6
1787	TIBENHAM 3/6
1787	TIBENHAM 4/6
1787	TIBENHAM 5/6
1787	TIBENHAM 6/6
1789	STRATTON ST MARY 6/6
1792	BROOME 3/5
1799	TACOLNESTONE 2/6
1799	TACOLNESTONE 3/6
1799	TACOLNESTONE 4/6
1801	FERSFIELD 1/1
1801	BROCKDISH 6/6

Bells cast by William Dobson

1832	DISS 1/8
1832	DISS 2/8
1832	DISS 3/8
1832	DISS 4/8
1832	DISS 5/8
1832	DISS 6/8
1832	DISS 7/8
1832	DISS 8/8
1832	GISSING 1/5
1832	GISSING 5/5

1. CBN., p. 48, CBH., p. 45, CBE., pp. 131, 286, etc.
2. CBS., pp. 173, 255.
3. CBS., p. 154.
4. A list of the major rings from Downham Market appears as an appendix to CBN., following p. 248.

BELLS CAST AT HARLESTON
Captain A. P. Moore, Gervas Holmes, Esq., and Mr. H. A. O. MacKenzie, 1879 - 1884.

The foundry was set up during the summer of 1878[1] by two accomplished ringers, Captain Arthur Penistone Moore and Gervas Holmes, Esq., and a notice in *Church Bells'*, dated 13 September, 1879, remarks that

> 'It has long been contemplated by the two first-named gentlemen to revive the art of casting church bells, and they secured the assistance and co-operation of Mr. MacKenzie, a gentleman of great engineering and musical knowledge.'.

The foundry was established at the premises of Messrs. Knights and Stacey at Harleston, who were well-known as agricultural engineers and ironfounders, and the bells were cast on a site in Wilderness Lane on the outskirts of the town. The town is within the ecclesiastical parish of Redenhall, where Moore and Holmes were ringers, and the premises were known as the Redenhall Bell-Foundry. The firm adopted a number of unorthodox designs for bell-frames and ringing gear, and were anxious to cast bells which came from the moulds without requiring subsequent tuning. Their first complete ring of bells was the six at Weybread, Suffolk, (1879), and this was followed by a number of single bells and complete rings of six at Winterton (1884) and Stanford-le-Hope, Essex (1884). The *Norfolk Chronicle* of 15 July 1882 announced the casting of a new ring of eight bells which, set up on a site in Wilderness Lane, was visited by a number of distinguished ringers during 1883 and 1884. The bells were eventually hung in the new tower of the church of St. Andrew, Thorpe Episcopi, which proved too weak for them to be rung in full circles. A single example of their work remains in south-east Norfolk.

1880	HARLESTON 1/1	

BELLS CAST AT IPSWICH
John Darbie, 1656 - 1685.
Alfred Bowell, 1896 - 1939.

Two known Ipswich founders[2], widely separated in date, supplied a few bells to churches in south-east Norfolk:

1669	LODDON 6/8	John Darbie
1670	GISSING 2/5	John Darbie
1670	GISSING 3/5	John Darbie
1670	GISSING 4/5	John Darbie
1678	THORPE ABBOTS 1/2	John Darbie
1683	BURSTON 1/1	John Darbie
1924	REDENHALL 3/8	Alfred Bowell
1924	REDENHALL 4/8	Alfred Bowell

1. All references to the Redenhall Foundry are found among the Candler Mss. (unindexed and without reference-numbers) at Garsett House, the headquarters of the Norfolk and Norwich Archaeological Society.
2. CBS. 2., p. 33.

BELLS CAST AT NORWICH AFTER C. 1560.

JOHN BREND I
c. 1564 - 1582.

The earliest documentary reference to John Brend is the record in the register of St. Stephen's Church, Norwich[1] of the baptism in 1565 of his son, Robert. The initials 'I.B.' appear on bells at Merton and Southburgh, both of which are dated 1564[2]. His name appears in the returns of parish rates[3] at St. Stephen's church in 1567 and 1577, but in his will of 1582[4] no mention is made of bell-founders' premises or tools. It is very likely that he worked as a tenant at the old bell-foundry, referred to as 'Brasyer's Workhouses' in Landgable assessments of 1549 and 1558[5], which was in the hands of Mr. Symond Bowd and called 'The Workhouses' in the assessment of 1570.

WILLIAM BREND
c. 1583 - 1634.

William Brend had not come of age when his father wrote his will in 1582[4], but was sufficiently competent to cast a bell for Framlingham church, Suffolk, in 1583[7]. It would appear, from a deed of 1586[8], that William Brend acquired property in All Saints' parish which became his bell-foundry after his departure from St. Stephen's parish[9], and the burial of John, the son of Alice and William Brend, is noted in the Register of All Saints' church as early as 1586. William retained his interest in the bell-foundry until the time of his death in 1634[10], and was buried in All Saints' church in that year[11].

JOHN BREND II
c. 1610 - 1658.

John Brend's initials first appear on bells cast by his father in 1610[12], the year of his 16th birthday[13]. In 1630 his widowed sister appears to have married John Draper[14], the Thetford bell-founder, and the two men worked together at a number of churches[15].

1. Register retained at the church. 2. CBN., p. 34.
3. Churchwardens' accounts retained at the church.
4. NRO., NCC Moyse alias Spicer 434.
5. NRO., NCR., Landgable rent books, shelf 18d.
6. See note 4. 7. CBSu., p. 102.
8. NRO., NCR., NED., roll 30. membrane 48.
9. In whose records his name seems not to occur.
10. He was paid by the North Walsham churchwardens for a bell in that year (CBN., p. 232.).
11. Parish register, NRO., PD 70/41.
12. See, for example, the bell at Norwich St. John Timberhill.
13. His birth in 1594 is recorded in the All Saints' Register, see note 11.
14. His sister Elizabeth was baptised at All Saints church in 1595, and there is a record of the the marriage of John Draper, widower to Elizabeth Taylor, widow, in 1630 (NRO., PD 70/41): compare with the reference in John Draper's will (CBN., p. 47) to his wife, Elizabeth, and to 'my brother John Brend of Norwich'
15. At Aylsham, for example (CBN., p. 94.).

Under the combined influence of John Draper and John Brend II; bells from the Norwich foundry reached their highest standard since the early 16th-century, when bells of superlative quality were being cast. The years of the civil war were difficult for the bell-founders, and no bells in Norfolk bearing dates in the years 1643, 1644 or 1645 have been noticed[1]. His burial is recorded in the register of All Saints' church in 1658[2].

ELIAS BREND
1658 - 1664.

RALPH BREND
1658 - 1664.

THOMAS BREND
c. 1664.

Three sons of John Brend II, mentioned in his will of 1658[3], carried on the business with moderate success, and a number of bells bearing their names or initials have been noticed[4]: the most successful of them was Elias Brend. The plague of 1666-1667 accounted for the entire progeny of both Thomas and Elias Brend, whose burials, together with those of their parents, are recorded in the register of All Saints' church, Norwich; only Ralph Brend, three of whose children were buried in 1666, seems to have survived, but his name has not been found on any bell other than that at South Elmham, dated 1664[5].

MICHAEL DARBIE
THOMAS SLOW
- 1661 -

Both names appear in an agreement with the churchwardens of St.Andrew's church, Norwich for the recasting of three bells of the ring of six[6]. They describe themselves as bell-founders of Norwich, and it is likely that were operating as tenants of the Brends at the All Saints' bell-foundry[7].

1. CBN., passim. In contrast to Worcestershire where the seventh bell of the octave at St.Andrew's Church, Droitwich is inscribed

   'GOD SAVE OVR KING
   IOHN WHEELER G EDWIN BARRETT G BAYLIES 1645 IM'

   H. B. Walters, 'The church bells of Worcestershire', *Transactions of the Worcestershire Archaeological Society for 1925 - 1926*, Worcester, 1927, p. 33.
2. NRO. PD 70/41.
3. CBN., p. 38.
4. CBN., *passim*.
5. CBN., p. 39.
6. NRO., P 163 A.
7. While Thomas Slow has not been noted elsewhere, Michael Darbie's career as a founder, beginning in Kent in 1650, has been traced by F. Sharpe in his *Church bells of Oxfordshire*, Brackley, 1953, p. 474.

During the years immediately following the plague no bells appear to have been cast in Norwich, and it is noted that the Ipswich founders supplied bells for Loddon in 1669, and for Gissing, Litcham, Ranworth, Snetterton and Tivetshall St. Margaret between 1670 and 1672[1].

EDWARD TOOKE
1671 - 1679.

Edward Tooke's name first appears on bells dated 1671[2], and he initially used the letter moulds employed by Elias Brend before producing his own fine letter stamps[3]. His burial is noted in the register of All saints' church in 1679[4], and his will makes no mention of his family in connection with the disposal of the bell-foundry, which he leaves in the hands of his executor[5].

SAMUEL GILPIN
1677 - 1705

Samuel Gilpin seems to have learned his craft under Edward Tooke and had risen to a position of responsibility by 1677 in which year he was paid by the Aylsham churchwardens for recasting two bells bearing Edward Tooke's name[6]. His name appears only only on bells at Toft Monks (recast in 1963[7]) and Langley[8], but documentary evidence shows that uninscribed bells cast by him in 1682 remain at Norwich, St. Mary Coslany[9]. The St. Mary Coslany bells are of very similar design to the single uninscribed bell at Shelton, which probably dates from 1683[10], and a similar bell, which could be dated to 1699, remained at Tharston until 1976[11]. The similarities in design appear in the moulding wires and in the unusual rectangular form of the cannons. The Shelton churchwardens' accounts show that the bell cast for them in 1683 was made at Trowse[12], and it is probable that when the death of Edward Tooke caused the bell-foundry to fall into the hands of executors, Gilpin was obliged to move outside the city. Samuel Gilpin's burial is recorded in the register of Norwich St. John de Sepulchre in 1705[13].

HENRY PLEASANT
- 1705 -

Henry Pleasant worked variously from Colchester and Sudbury from 1691[14], before removing to Thetford in about 1702[15]. His visit to Norwich was brief, and he probably worked from Samuel Gilpin's bell-foundry in 1704/05[16], before returning to Sudbury where he was buried in 1708[17]

1. CBN., *passim*:
2. Norwich, St Peter Parmentergate and Aldeby, CBN., pp 90, 186.
3. See, for example, bells at Aldeby and Shotesham St. Mary.
4. NRO., PD 70/41. 5. CBN., p. 39. 6. *Ibid.* 7. See p. 72.
8. See p. 268. 9. CBN., p. 181. 10. See p. 128. 11. See p. 141.
12. See p. 128. 13. CBN., p. 42. 14. CBEx., p. 121.
15. Where he cast bells for Besthorpe, see the copy of the churchwardens' accounts at the Colman Rye Library, BES 274.2.
16. He cast two bells for St. Andrew's church. Norwich at Bracondale, which is very near to Trowse. CBN., p. 170. 17. CBEx., p. 123.

THOMAS NEWMAN
1702 - 1745

Thomas Newman was the son of Charles Newman of Haddenham[1], an itinerant bell-founder[2], and probably worked with his father before moving to Norwich in 1702[3], where he cast a bell for Howe church. The design of the Howe bell suggests that he was operating with Samuel Gilpin's founder's plant, and the characteristic square cannons appear on a number of Thomas Newman's later bells. Churchwardens' accounts show that he was casting bells at Blakeney in 1702 - 1703, moving to Horstead, where he worked from 1703 to 1705[4]. Before removing more permanently to Norwich by 1706[5], he had been working in Cambridgeshire[6].

Samuel Gilpin died in 1705[7], and it would appear that Thomas Newman then moved to Bracondale. Between 1706 and 1716, Thomas Newman's bells appear in many churches in the vicinity of Norwich[8], and in the latter year he appears to have worked from both Haddenham and Cambridge[9]. He came back to Norwich in 1728[10], where, apart from excursions to Cambridge in 1729 and to Bury St. Edmunds in 1735[11], he remained until his death in 1745[12].

1. CBC., p. 94.
2. Charles Newman was working at King's Lynn in 1684 (see p. 398) and from a foundry at Botesdale in 1691, when he cast a bell for Diss (see p. 170), styling himself in the warranty for the bell as 'Charles Newman in the Ile of Ely in the County of Cambridge, Belfounder'. He cast a bell at Bury St. Edmunds in 1696 (CBN., p. 66.), and was based at Blakeney by 1699, when he cast a bell for Bessingham (NRO., PD 222/14): he was still at Blakeney in 1701, when he cast a bell for Norwich,St. Lawrence (CBN., p. 40). From 1704 onwards, when he was probably assisting his son, his name appears on few bells apart from the treble at Kennett, Suffolk, dated 1707 (CBS., p. 94), which he may have cast at Bury St. Edmunds, where he wrote his will in 1709 (CBEx., p. 108).
3. A bell at Howe, Norfolk was cast by him at Norwich in 1702, see p. 62.
4. The Tunstead churchwardens accounts (NRO., PD 285/38) show that he had returned to his father's foundry at Blakeney to recast the ring of five bells from Tunstead: he was obliged to recast faulty bells on two occasions in 1703, at Blakeney in January and at Horstead in May of that year.
5. In which year he cast the tenor bell for Worstead which is inscribed
   'I TELL ALL THAT DOTH ME SEE
   THAT NEWMAN AT BRAKINDEL DID NEW CAST ME'
   and on which his initials appear (CBN., p. 243)
6. He cast rings of five bells for the churches at Fowlmere (CBC., p. 144) in 1704, and Cambridge, Holy Trinity (CBC., p. 129) in 1705. A single bell at Wyton, Huntingdonshire was cast by Newman at Haddenham in 1705 (see: T. M. N. Owen, *The Church Bells of Huntingdonshire*, London, 1899, p. 146), and it is likely that the Cambridgeshire fives were also cast at the same place.
7. See p. 410. CBN., *passim*. 8. CBC., *passim*.
9. His bells again appear in the locality, see CBN., *passim*.
10. CBC., CBS., *passim*. 11. CBN., p. 42.

JOHN STEPHENS
1717 - 1727.

The departure of Thomas Newman to Cambridgeshire in 1716[1] left the way clear for John Stephens to occupy the Bracondale bell-foundry. One of his earliest bells is dated 1717[2], and he produced excellent castings through to 1727[3]. His burial is recorded in the register of St. John de Sepulchre, Norwich in 1727[4].

THOMAS GARDINER
1745 - 1756

Thomas Gardiner worked initially from Sudbury, and his earliest bell is dated 1709[5]. He is known to have cast bells on a site at Benhall, Suffolk in 1718[6], and to have collaborated with Thomas Newman in the casting of the tenor bell for St. Mary's church, Newmarket in 1718[7]. He seems to have come to Norwich after Newman's death, to have been well-employed locally until his departure in 1756, and his latest bells are noted in 1766 in three Essex churches[8].

The last complete ring of bells to be cast in Norwich appears to have been the ring of five at Field Dalling, dated 1750 and remaining almost as Gardiner left them. They hang in a bell-frame which is contemporary with the tower and which was adapted in 1750 for the new ring of bells. All the contemporary ringing fittings appear to be complete, including a blacksmith-made spanner designed to fit the nuts on the cannon-straps, but the bells are no longer ringable[9].

The latest date for a bell cast in Norwich appears to be on the small clock bell at Felbrigg Hall[10], inscribed:

THO. GARDINER NORWICH FECIT 1756.

1. See p. 448.
2. At Martham, inscribed (CBN., p. 161):
   'IOHN STEPHENS BELL FOVNDER OF NORWICH MADE ME 1717'.
3. East Bergholt tenor, a bell of 26 cwt, is dated 1727 and is of very fine quality (CBS., p. 164).
4. CBN., p. 42.
5. CBEx., p. 124.
6. CBS., p. 254.
7. CBS., p. 221.
8. CBEx., p. 126.
9. Visited August, 1983.
10. Information from Mr. R. W. M. Clouston, who visited the house in 1984.

The following bells in south-east Norfolk were cast by Norwich bell-founders:

1566	NEEDHAM 1/3	John Brend 1
1473	BEDINGHAM 4/5	John Brend 1
1579	GILLINGHAM 1/3	John Brend 1
1584	SURLINGHAM 2/4	William Brend
1593	EARSHAM 2/3	William Brend
1593	TASBURGH 4/5	William Brend
1596	ELLINGHAM 2/5	William Brend
1599	ROCKLAND ST. MARY 3/3	William Brend
1602	FORNCETT ST. PETER 3/6	William Brend
1602	FORNCETT ST. PETER 4/6	William Brend
1604	ASLACTON 4/5	William Brend
1606	LANGLEY 5/5	William Brend
1607	ASLACTON 1/5	William Brend
1607	ASLACTON 2/5	William Brend
1607	ASLACTON 5/5	William Brend
1607	HARDLEY 2/3	William Brend
1611	PULHAM ST. MARY 4/8	William Brend
1612	ASHWELLTHORPE 5/5	William Brend
1613	TASBURGH 3/5	William Brend
1613	YELVERTON 2/3	William Brend
1614	ASLACTON 3/5	William Brend
1614	EARSHAM 3/3	William Brend
1615	ARMINGHALL 1/1	William Brend
1616	DENTON 1/3	William Brend
1616	LODDON 5/8	William Brend
1616	LODDON 8/8	William Brend
1617	RAVENINGHAM 5/5	William Brend
1618	GILLINGHAM 3/3	William Brend
1618	SAXLINGHAM NETHERGATE 4/8	William Brend
1618	WHEATACRE 1/1	William Brend
1619	STARSTON 3/6	William Brend
1619	STARSTON 6/6	William Brend
1620	DITCHINGHAM 6/6	William Brend
1621	STOCKTON 2/5	William Brend
1622	NORTON SUBCOURSE 3/6	William Brend
1622	NORTON SUBCOURSE 6/6	William Brend
1622	SHOTESHAM ALL SAINTS 2/5	William Brend
1622	SHOTESHAM ALL SAINTS 5/5	William Brend
1622	SISLAND 1/1	William Brend
1624	YELVERTON 3/3	William Brend
1626	KIRBY CANE 1/5	William Brend
1626	KIRBY CANE 5/5	William Brend
1626	MORNINGTHORPE 1/3	William Brend
1626	MORNINGTHORPE 2/3	William Brend
1627	NEEDHAM 3/3	William Brend
1628	BERGH APTON 5/6	William Brend
1629	ELLINGHAM 3/5	William Brend
1629	ELLINGHAM 4/5	William Brend
1630	CLAXTON 1/3	William Brend
1630	CLAXTON 2/3	William Brend
1630	CLAXTON 3/3	William Brend
1630	THURTON 3/3	William Brend
1631	ASHBY ST. MARY 2/3	William Brend

1631	TASBURGH 2/5	William Brend
1632	THORPE NEXT HADDISCOE 1/2	William Brend
1632	THURLTON 1/5	William Brend
1632	THURLTON 2/5	William Brend
1632	THURLTON 3/5	William Brend
1632	THURLTON 4/5	William Brend
1632	THURLTON 5/5	William Brend
1633	ALDEBY 2/5	William Brend
1633	ALDEBY 5/5	William Brend
1634	HARDLEY 1/3	William Brend
1634	GREAT MOULTON 1/1	William Brend
1634	SEETHING 1/3	William Brend
N.D.	YELVERTON 0/3	William Brend
1635	KIRBY BEDON 3/3	John Brend 2
1638	HADDISCOE 2/5	John Brend 2
1638	SEETHING 3/3	John Brend 2
1640	BROOME 1/5	John Brend 2
1640	BROOME 2/5	John Brend 2
1640	BROOME 4/5	John Brend 2
1640	STOKE HOLY CROSS 2/2	John Brend 2
1640	TOPCROFT 2/3	John Brend 2
1640	TOPCROFT 3/3	John Brend 2
1640	WINFARTHING 3/6	John Brend 2
1641	WOODTON 2/6	John Brend 2
1641	WOODTON 3/6	John Brend 2
1641	WOODTON 4/6	John Brend 2
1641	WOODTON 5/6	John Brend 2
1641	WOODTON 6/6	John Brend 2
1647	ELLINGHAM 5/5	John Brend 2
1651	SAXLINGHAM NETHERGATE 5/8	John Brend 2
1652	STRATTON ST. MARY 5/6	John Brend 2
1656	BERGH APTON 3/6	John Brend 2
1658	SHIMPLING 3/3	John Brend 2
1660	CARLETON ST. PETER	Elias Brend
1671	ALDEBY 4/5	Edward Tooke
1672	CARLETON ST. PETER 1/4	Edward Tooke
1673	YELVERTON 1/3	Edward Tooke
1674	BERGH APTON 2/6	Edward Tooke
1675	SHOTESHAM ST. MARY 1/2	Edward Tooke
1676	RAVENINGHAM 4/5	Edward Tooke
1677	ALDEBY 3/5	Edward Tooke
1677	BERGH APTON 4/6	Edward Tooke
1677	KIRBY CANE 2/5	Edward Tooke
1677	KIRBY CANE 3/5	Edward Tooke
1678	BERGH APTON 1/6	Edward Tooke
1679	HADDISCOE 4/5	Edward Tooke
N.D.	THURTON 1/3	Pr. Edward Tooke
1703	LANGLEY 4/5	Samuel Gilpin
N.D.	BROOKE 2/6	Pr. Samuel Gilpin
N.D.	CHEDGRAVE 1/1	Pr. Samuel Gilpin
N.D.	SHELTON 1/1	Pr. Samuel Gilpin
N.D.	WACTON 1/3	Pr. Samuel Gilpin

1702	HOWE 1/1	Thomas Newman
1706	BROOME 5/5	Thomas Newman
1706	ROCKLAND ST. MARY 1/3	Thomas Newman
1706	ROCKLAND ST. MARY 2/3	Thomas Newman
1707	ASHWELLTHORPE 1/5	Thomas Newman
1710	ASHWELLTHORPE 2/5	Thomas Newman
1707	ASHWELLTHORPE 3/5	Thomas Newman
1707	CARLETON ST. PETER 3/4	Thomas Newman
1708	ASHBY ST. MARY 1/3	Thomas Newman
1711	THWAITE ST. MARY 2/2	Thomas Newman
1712	HECKINGHAM 1/1	Thomas Newman
1718	SURLINGHAM 1/4	John Stephens
1721	SEETHING 2/3	John Stephens
1721	STOCKTON 4/5	John Stephens
1724	PULHAM MARKET 7/8	John Stephens
1726	HEMPNALL 1/1	John Stephens
1728	TACOLNESTONE 6/6	Thomas Newman
1730	NORTON SUBCOURSE 4/6	Thomas Newman
1730	SHOTESHAM ST. MARY 2/2	Thomas Newman
1731	CARLETON ST. PETER 4/4	Thomas Newman
1732	BUNWELL 1/6	Thomas Newman
1732	BUNWELL 4/6	Thomas Newman
1732	BUNWELL 5/6	Thomas Newman
1732	WINFARTHING 6/6	Thomas Newman
1734	STRATTON ST. MARY 2/6	Thomas Newman
1734	STRATTON ST. MARY 3/6	Thomas Newman
1737	FORNCETT ST. PETER 5/6	Thomas Newman
1737	FRAMINGHAM PIGOT 1/3	Thomas Newman
1738	ASHWELLTHORPE 4/5	Thomas Newman
1739	HADDISCOE 1/5	Thomas Newman
1739	HADDISCOE 3/5	Thomas Newman
1739	PULHAM ST. MARY 8/7	Thomas Newman
1743	HARDWICK 1/1	Thomas Newman

BELLS CAST AT REDGRAVE

JOHN GOLDSMITH, 1702 - 1713.

The Redgrave foundry was active for a short period at the beginning of the 18th century[1] and three bells by John Goldsmith heve been noted in south-east Norfolk.

1707	FRENZE 1/1
1708	PULHAM ST. MARY 7/8
1710	BEDINGHAM 2/5

1. CBS., p. 145.

BELLS CAST AT SUDBURY

HENRY PLEASANT, 1691 - 1707.
JOHN THORNTON, 1708 - 1720.
THOMAS GARDINER, 1709 - 1760.

The history of the Sudbury foundry has been fully researched by H. B. Walters[1], and excursions to Norwich by both Pleasant and Gardiner have been noted[2]. A few bells which appear to have been cast in Sudbury have been noted in south-east Norfolk.

1697	BROCKDISH 2/6	Henry Pleasant
1699	BUNWELL 2/6	Henry Pleasant
1699	BUNWELL 3/6	Henry Pleasant
1714	BILLINGFORD 1/1	Thomas Gardiner
1717	PULHAM ST. MARY 3/8	John Thornton

BELLS CAST AT THETFORD

THOMAS DRAPER 1, 1579 - 1595.
THOMAS DRAPER 2, - 1593 - 1598 -
JOHN DRAPER, - 1597 - 1644.

The history of the Thetford bell-foundry has been published by both Raven and L'Estrange[3], and little can be added to their accounts, apart from the fact that a brother of John Draper has been noted as a bell-founder working at North Elmham in 1602/1603[4].

1582	SHELFANGER 6/6	Thomas Draper
1588	REDENHALL 6/8	Thomas Draper
1621	REDENHALL 7/8	John Draper
1634	CARLETON RODE 1/1	John Draper

1. CBEx., pp. 121 - 127.
2. See pp. 447 and 449.
3. CBN., pp. 43 -47, CB., pp. 100 - 102 and pp. 110 - 113.
4. See a bond between Henry Draper of North Elmham who 'hathe lately caste anew the greate bell hanging in the steeple of North Elmham', NRO. PD 209/41.

BELLS CAST BY A POSSIBLY ITINERANT FOUNDER.

HENRY YAXLEY.
Probably at Thrandeston, c. 1671

Two known bells are inscribed with the name of Henry Yaxley. Fritton 1/3 is dated 1671[1] and Wyverstone 1/3 is dated 1674[2], and both bells carry a distinctive shield charged with a chevron between three mullets. Raven confuses the identification of Yaxley's work by wrongly stating that the Brasyer's three-bell shield appears on the Fritton bell, and adds that he may have cast some of the bells for Horham, Suffolk, church in 1683[3]. The Horham bells are the earliest surviving ring of eight in existence[4], and the octave was completed in 1672, two bells being dated in that year and one, presumably a recasting, dated in 1673[5]. The bells of 1672/73 have similar lettering to that on the Fritton bell, and a small stamp in the form of a pentagonal rosette appears in both towers[6] thus apparently confirming Raven's supposition. Deedes and Walters[7] ascribe a bell dated 1684 at Great Sampford to Henry Yaxley on the strength of a shield which also appears on the Wyverstone bell.

The churchwardens' accounts at Bressingham show that Henry Yaxley was paid for recasting their fourth bell at Thrandeston in 1671, which bell is inscribed:

MILES GRAYE MADE ME 1671
HENRY MALLOWES & WILLIAM ROWT CHURCH WARDENS

The lettering is larger than that employed at Horham, but is of similar design, and it would appear that Yaxley was acting as a foreman for Miles Graye III[8] of Colchester. In the context of other contemporary bells by Miles Graye III listed by Deedes and Walters[9], all of which are in churches in north Essex and south-east Suffolk, the Bressingham bell is an anomaly. It may well be the case that Graye sent a competent foreman to work on his own in north Suffolk, who subsequently went into business independently of his former employer. It is equally possible that he was based at Thrandeston for a few years, and he may have worked sometimes on his own behalf and sometimes as an agent for other founders.

1671	FRITTON 1/3
1671	BRESSINGHAM 4/5

1. See p. 110.
2. CBS., p. 258.
3. *Ibid.*
4. CBS. 2, p. 3.
5. CBS., p. 258.
6. Rubbings taken at Horham in 1982 compared with those taken at Fritton in 1981.
7. CBEx., p. 111.
8. CBEx., p. 96.
9. CBEx., pp. 101 - 104.

NON-LOCAL BELL-FOUNDERS

BELLS CAST AT CROYDON
Gillett and Bland, 1879 - 1884.
Gillett and Co., 1884 - 1887.
Gillett and Johnson, 1887 - 1958.

The history of the Croydon bell-foundry has been published in detail by G. P. Elphick[1], and the firm has supplied five bells to churches in south-east Norfolk. The very small bells which form the clock chime at Kirby Bedon are by Gillett and Johnson, as is the larger bell of the pair at Thorpe Abbots.

1919	KIRBY BEDON 1/4
1919	KIRBY BEDON 2/4
1919	KIRBY BEDON 3/4
1919	KIRBY BEDON 4/4
1929	THORPE ABBOTS 2/2

BELLS CAST IN LONDON AT THE CRIPPLEGATE BELL-FOUNDRY
John Warner and Son. 1763 - c. 1914.

The bell-foundry at Cripplegate, London, was owned by successive generations of the Warner family from 1763 to c. 1918 though their most prolific period was between c. 1860 and c. 1914[2]. In south-east Norfolk they worked in close association with the Eye bellhangers, many of their bells being inscribed 'DAY HUNG US'. Their major local work was the remodelling of a heavy ring of five to form a light six at Winfarthing in 1912, where the quality of their bell-founding exceeds that of the content of the inscriptions cast on the bells[3]. The augmentations to eight at Pulham St. Mary (1895) and Pulham Market (1903) were undertaken by Day of Eye, who built new bell-frames and added bells cast by Warners.

1866	ROYDON 1/1
1868	TIBENHAM 1/6
1875	FORNCETT ST. PETER 6/6
1876	ELLINGHAM 1/5
1884	BUNWELL 6/6
1885	RAVENINGHAM 3/5
1888	RAVENINGHAM 1/5
1889	LODDON 1/8
1889	LODDON 2/8
1892	NORTON SUBCOURSE 2/6
1893	NORTON SUBCOURSE 1/6
1895	PULHAM ST. MARY 1/8
1895	PULHAM ST. MARY 2/8
1903	PULHAM MARKET 1/8
1903	PULHAM MARKET 2/8
1903	PULHAM MARKET 4/8
1912	WINFARTHING 1/6
1912	WINFARTHING 2/6
1912	WINFARTHING 4/6
1912	WINFARTHING 5/6

1. SBSx., p. 169 - 175. 2. CBSx., pp. 167.168. 3. See p. 187.

BELLS CAST IN LONDON AT THE WHITECHAPEL BELL-FOUNDRY
Continuous list of founders from c. 1363 to the present day.

The history of the Whitechapel founders is well researched and has been published in a number of places, a particularly full and concise account having been published by G. P. Elphick[2]. The strength of the local bell-foundries ensured that very few London-cast bells were hung in the towers of south-east Norfolk before the extinction of the Norwich bell-foundry in 1756[2].

1730	ALBURGH 3/8	Richard Phelps
1730	ALBURGH 4/8	Richard Phelps
1730	ALBURGH 5/8	Richard Phelps
1736	REDENHALL 1/8	Richard Phelps
1737	REDENHALL 2/8	Richard Phelps
1738	REDENHALL 5/8	Richard Phelps
1737	ALBURGH 1/8	Richard Phelps
1737	ALBURGH 2/8	Richard Phelps
1739	DITCHINGHAM 3/6	Thomas Lester
1751	DITCHINGHAM 5/6	Thomas Lester
1754	FUNDENHALL 1/5	Lester & Pack
1754	FUNDENHALL 2/5	Lester & Pack
1754	FUNDENHALL 4/5	Lester & Pack
1766	ALBURGH 7/8	Lester & Pack
1766	STRATTON ST. MICHAEL 1/1	Lester & Pack
1772	SHELFANGER 2/6	Pack & Chapman
1772	SHELFANGER 3/6	Pack & Chapman
1772	SHELFANGER 4/6	Pack & Chapman
1772	SHELFANGER 5/6	Pack & Chapman
1772	WOODTON 1/6	Pack & Chapman
1778	BEDINGHAM 3/5	Pack & Chapman
1811	KIRBY CANE 4/5	Thomas Mears
1820	DITCHINGHAM 1/6	Thomas Mears
1820	DITCHINGHAM 2/6	Thomas Mears
1821	STOCKTON 1/5	Thomas Mears
1826	HAPTON 1/1	Thomas Mears
1833	PULHAM MARKET 5/8	Thomas Mears
1838	HEDENHAM 1/6	Thomas Mears
1838	HEDENHAM 2/6	Thomas Mears
1838	HEDENHAM 3/6	Thomas Mears
1838	HEDENHAM 4/6	Thomas Mears
1838	HEDENHAM 5/6	Thomas Mears
1838	HEDENHAM 6/6	Thomas Mears

1. CBSx., pp.
2. See p. 449.

1847	STARSTON 2/6	Charles & George Mears
1847	STARSTON 4/6	Charles & George Mears
1847	STARSTON 5/6	Charles & George Mears
1852	LANGLEY 1/5	Charles & George Mears
1852	LANGLEY 2/5	Charles & George Mears
1852	LANGLEY 3/5	Charles & George Mears
1853	LODDON 1/8	Charles & George Mears
1853	LODDON 2/8	Charles & George Mears
1853	MORNINGTHORPE 3/3	Charles & George Mears
1858	BIXLEY 1/1	George Mears
1859	FRAMINGHAM PIGOT 2/3	George Mears
1859	FRAMINGHAM PIGOT 3/3	George Mears
1864	KIRSTEAD 1/1	George Mears
1866	BROCKDISH 1/6	Robert Stainbank
1866	BROCKDISH 3/6	Robert Stainbank
1876	TOPCROFT 1/3	Mears & Stainbank
1899	SAXLINGHAM NETHERGATE 3/8	Mears & Stainbank
1899	SAXLINGHAM NETHERGATE 7/8	Mears & Stainbank
1899	SAXLINGHAM NETHERGATE 8/8	Mears & Stainbank
1903	STARSTON 1/6	Mears & Stainbank
1904	STRATTON ST. MARY 1/6	Mears & Stainbank
1907	THARSTON 1/5	Mears & Stainbank
1907	THARSTON 3/5	Mears & Stainbank
1907	THARSTON 5/5	Mears & Stainbank
1908	SAXLINGHAM NETHERGATE 1/8	Mears & Stainbank
1908	SAXLINGHAM NETHERGATE 2/8	Mears & Stainbank
1912	RUSHALL 1/1	Mears & Stainbank
1922	BRESSINGHAM 2/5	Mears & Stainbank
1922	BRESSINGHAM 3/5	Mears & Stainbank
1922	LODDON 7/8	Mears & Stainbank
1928	PULHAM MARKET 3/8	Mears & Stainbank
1928	PULHAM MARKET 6/8	Mears & Stainbank
1928	PULHAM MARKET 8/8	Mears & Stainbank
1946	ALDEBY 1/5	Mears & Stainbank
1951	NORTON SUBCOURSE 5/6	Mears & Stainbank
1959	TROWSE 1/1	Mears & Stainbank

BELLS CAST AT LOUGHBOROUGH
John Taylor & Co., 1839 to present day.

The Loughborough bell-foundry was established in 1839 by one John Taylor, members of his family having previously worked with the St Neots founders in the 18th-century before setting up businesses successively in Oxford and Buckland Brewer, Devon[1]. The later history of the foundry is presented by G, P. Elphick[2]. 28 bells in south-east Norfolk are products of the Loughborough founders, the earliest being the treble at Bedingham. Later bells include the light chime of eight at Bramerton (3 bells cast in 1924 and the octave completed in 1928), and various single bells. In about 1895, Taylors' adopted a distinctive style of tuning, involving careful adjustment of the partial tones which are heard when a bell is struck, and the tenor at Tasburgh (1900) is a particularly fine-sounding bell.

1847	BEDINGHAM 1/5
1857	DICKLEBURGH 2/6
1857	DICKLEBURGH 6/6
1900	TASBURGH 1/5
1900	TASBURGH 5/5
1901	SHOTESHAM ALL SAINTS 1/5
1924	BRAMERTON 6/8
1924	BRAMERTON 7/8
1924	BRAMERTON 8/8
1928	BRAMERTON 1/8
1928	BRAMERTON 2/8
1928	BRAMERTON 3/8
1928	BRAMERTON 4/8
1928	BRAMERTON 5/8
1937	FORNCETT ST. PETER 2/6
1958	DICKLEBURGH 1/6
1963	PULHAM ST. MARY 5/8
1963	TOFT MONKS 1/3
1965	SCOLE 1/6
1965	SCOLE 2/6
1965	SCOLE 3/6
1965	SCOLE 4/6
1965	SCOLE 5/6
1966	SCOLE 6/6
1974	SHELFANGER 1/6
1976	THARSTON 2/5
1982	FORNCETT ST. PETER 1/6
1982	TACOLNESTONE 1/6

BELLS CAST AT SMETHWICK.
CHARLES CARR, 1887 - c. 1914.

Charles Carr bought the business of the Birmingham bell-founder, William Blews in 1887, and cast a number of bells, principally for churches in the Midlands[3]. The sole example of his work in south-east Norfolk is the single small bell at Burgh St. Peter.

1894	BURGH ST. PETER 1/1

1. CBSx., p. 154. 2. CBSx., pp. 154 - 159. 3. CBH., pp. 633, 630.